



NATIONAL UNIVERSITY OF  
SCIENCE AND TECHNOLOGY

# 2022 ANNUAL REPORT



**THINK IN OTHER TERMS**



# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

*Think In Other Terms*



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*Students at the Chemistry Laboratory doing practicals*

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NUST is a young and progressive university established by an Act of the Zimbabwe Parliament in 1991 in the warm and friendly City of Bulawayo, South West of Zimbabwe. NUST open its “doors” to the first intake of 270 students on the 8th of April 1991 in three Faculties of Commerce, Applied Science and Industrial Technology (now Faculty of Engineering).

On the 19th of May 1991, Professor Phinias M. Makhurane was appointed as the inaugural Vice-Chancellor of the University. On the 28th of October 1991, the University install its first Chancellor, the late President of Zimbabwe, Cde R.G. Mugabe, and its first Vice-Chancellor, Professor Phinias Makhurane, and laid the institution’s Foundation Stone.

On Saturday the 27th of May 1995 the University held its first Graduation Ceremony with 163 graduates from the Faculties of Commerce and Applied Science being capped. Since then, Graduation is a major annual event in the University calendar.

The University installed its second Chancellor, His Excellency, President Dr E.D. Mnangagwa and third Vice-Chancellor, Prof Mqhele E. Dlodlo on the 9th of November 2018. The late Professor Lindela R. Ndlovu was the University’s second Vice-Chancellor. From three Faculties in 1991, NUST has grown to eight (8) Faculties of Applied Science, Environmental Science, Engineering, Medicine, The Built Environment, Science and Technology Education, Communication and Information Science and Commerce. There is also an Institute of Development Studies, a Graduate School of Business, and a Centre for Continuing Education. The University also has

# ABOUT US

an Innovation Hub, a centre for transforming ideas into innovations for commercialisation and driving industrialisation as mandated by the new education philosophy, the Heritage-based Education 5.0. Cabinet also granted NUST permission to take over the running of Joshua Mqabuko Nkomo Ekusileni Hospital in post-Covid-19.

The University offers undergraduate degree programmes, postgraduate programmes in the form of masters, Master of Philosophy (MPhil), and doctor of philosophy (PhD). From graduating 163 students in 1995, NUST now graduates over 3,000 students including students from eight (9) affiliate institutions. These are Gwanda State University, Ba Isago University (Botswana), Bulawayo Polytechnic, Harare Polytechnic, Mutare Polytechnic, Kwekwe Polytechnic, TelOne, Africa Leadership and Management Academy and Zimbabwe Institute of Public Administration and Management.

Our student enrolment has grown from 270 in 1991 to 10,522 in 2022 of which 44% are female and 56% are male. Enrolment in STEM programmes has increased from 60% in 2021 to 63% in 2022.







# NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

## VISION

TO BE A WORLD CLASS UNIVERSITY IN SCIENCE, TECHNOLOGY, INNOVATION, ENTREPRENEURSHIP AND BUSINESS DEVELOPMENT, SPEARHEADING INDUSTRIALISATION LOCALLY AND BEYOND.

## MISSION

TO LEAD IN HUMAN CAPITAL DEVELOPMENT FOR INDUSTRIAL AND SOCIO-ECONOMIC TRANSFORMATION, WITH A BIAS TOWARDS SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) BASED SOLUTIONS.

## VALUE STATEMENTS

IN THE DELIVERY OF VALUE TO 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 FULFILL YOUR DREAM.

## MOTTO

THINK IN OTHER TERMS



# Chairperson's Statement



**PROF LINDIWE MAJELE SIBANDA**  
*NUST CHAIRPERSON OF COUNCIL*

I AM delighted to welcome you all to the 2nd Annual General Meeting for the National University of Science and Technology and present my Chairperson's Report for the year 2022.

Before I proceed, I wish to express my sincere gratitude for the opportunity to lead the University Council with effect from the 1st of September 2022, following the retirement of Engineer Alvord Mabena, as Chairman of NUST Council. We extend our appreciation to the former Chairman for his contribution to NUST in various capacities over a period of 15 years.

Our policy direction in 2022 was shaped by the country's Vision 2030 whose focus on promoting innovation, entrepreneurship, equitable development and prosperity for all challenged us to rethink our potential and priorities.

Inspired by His Excellency, President Dr E.D. Mnangagwa's mantra, *Ilizwe lakhiwa ngabanikazi balo*, and with support and guidance from our astute Minister of Higher and Tertiary Education, Innovation, Science and Technology Development, Prof dr Amon Murwira, we took up construction projects internally to rebuild NUST brick-by-brick using our own hands. We are grateful for the financial support and guidance we received from the Ministry, as construction works at the now Technovation Centre (formerly Campus Services Centre) is underway with the target to complete Block B within the 100-day cycle in 2023.

Working together with our sister institutions, we are confident to move mountains and complete all infrastructural projects that have been on standstill for a long time at NUST.

We also focused on national projects through provision of various expertise ranging from architectural designs to engineering, in our attempt to raise the third stream income. We partnered with other institutions on national projects such as ZESA Holdings in the implementation of the National Total Electrification Programme that was launched by His Excellence, the President Dr E.D. Mnangagwa on the 29th October 2022. We intended to grow our consultancy services, as this is a low hanging fruit for income generation.

Our work in 2022 was clearly cut out in the new education philosophy, the Heritage-based Education 5.0. In line with our motto, we had to "think in other terms" on our teaching and learning, research, scholarly community engagement, innovation and industrialisation. While the COVID-19 pandemic had its challenges, we used it as an opportunity to invest in ICT infrastructure, as we believe it is the new normal. Cognisant of the fact that NUST cannot develop in isolation, we strengthened our collaborations and partnerships locally and beyond. Together with our partners, we are working in communities to solve various challenges towards the achievement of Vision 2030.

We took note of concerns raised in our last year's financial statements and responded timeously to queries from our Auditors with the aim to present clean audits.

Looking ahead into 2023, we want to consolidate on infrastructural development projects. We are focused on our target of completing Block B of the Technovation Centre within the 100-Day Cycle. We also want to transform NUST into a clean and smart campus.

I wish to express our gratitude to our Ministry and stakeholders for the unwavering support on our transformative journey.

On behalf Council, I want to thank our employees and management team for embracing the transformative Heritage-based Education 5.0 philosophy. Our commitment to innovation and commercialisation remains steadfast.

Thank you for your trust and confidence in me as the new Chairperson of Council. I want to assure you that NUST is poised to achieve new heights of excellence.



# Vice-Chancellor's Statement



**PROF. ENG. MQHELE E. DLODLO**  
*Vice-Chancellor*

I AM pleased to present the Vice-Chancellor's Statement for the year 2022, highlighting our unwavering dedication to the implementation of the Heritage-based Education 5.0 towards the achievement of Zimbabwe's Vision 2030.

## Teaching and Learning

Teaching and learning progressed smoothly through blended learning. The University introduced Moodle as the e-Learning platform, the de facto standard e-Learning platform for Zimbabwean Higher Education. Field trips, practical work, industrial attachment and examinations were successfully conducted.

The University successfully aligned all programmes with the Zimbabwe Council for Higher Education (ZIMCHE) Minimum Bodies of Knowledge (MBKS).

To support blended learning, the University procured 400 laptops for academic staff and acquired EduRole, a student records management information system, to replace the old Navision system. Full rollout of EduRole was expected in 2023.

Two (2) new programmes were launched in the year under review and these are the Bachelor of Science Honours in Geographical Informational Systems and Remote Sensing, and the Bachelor of Commerce Honours Degree in Economics and Econometrics.

Another new programme, BSc Honours Degree

in Nursing was set to enrol its inaugural students in the 2023/24 academic year. The programme targets A-Level graduates without prior nursing experience.

The University successfully held its 27th Graduation Ceremony, with 3,087 students graduating (46% female and 54% male). Of these, 59% were STEM graduates. Forty-two (42) graduates were from Botswana, Zambia, South Sudan, Eswatini and the Democratic Republic of Congo. Seven (7) graduated with PhDs and six (6) with MPhils. A total of 194 graduated with Distinctions and First Class.

## Research, Innovation and Industrialisation

The University indexed its two journals, the Southern African Journal of Communication and Information Science (SAJCIS) and the Zimbabwe Journal of Science and Technology (ZJST), into the University of Cape Town's Continental Platform to increase the visibility of the articles.

During the year under review, 58 grant applications were approved and a total RTGSS\$31,359,185.80 was disbursed for Research Grants, Publication Fees and Conference Grants. A total of 409 journal papers, book chapters and books were published.

The University conducted national consultancy projects including the Tugwi-Mukosi Combination Master Plan, architectural designs of ZIMCHE Headquarters, Chivhu Industrial Park, Zimbabwe National Geospatial Agency (ZINGSA) and Hwange College of Education.

NUST joined ZESA Holdings in the implementation of the National Total Electrification Programme that was launched by His Excellence, the President Dr E.D. Mnangagwa on the 29th October 2022. An MoU was signed in which NUST will be responsible for the training of ZESA technicians and engineers. Training and roll out of the programme was set to commence in year 2023.

A total of 11 innovation projects were housed at the Innovation Hub and were at different levels of completion. At the Software Development Centre, activity increased with 10 projects underway. These projects were earmarked for completion and commercialisation in 2023.

Another MOU between NUST, Lupane State University, Engineers Without Borders, Norway and Denmark was signed resulting in projects on agriculture, water and plastic waste recycling being identified. Work on the projects was planned for 2023.

The Applied Genetics Testing Centre (AGTC) conducted 236 DNA tests for paternity (206), bovine



(13) and forensic investigations (17).

AGTC received an Oligomaker machine for manufacturing of PCR kits. The machine was successfully installed at the Innovation Hub and a staff member from AGTC attended training in Denmark in December 2022. During the training, it was discovered that there were extra pieces of equipment needed to complement the main Oligomaker machine. Manufacture of PCR kits was earmarked to start in 2023.

A total of USD\$ 342,378.00 was generated from the innovations.

The University farm was designated as an Agro-Industrial Park. However, lack of adequate water supply slowed down the implementation of projects. Solar-powered boreholes were drilled but the water supply is not adequate for commercial use. A proposal to draw water from Mananda Dam, which is about 7km away from the farm was developed and funding for this project is being sought. Brick-making started at the farm towards the construction of farm infrastructure.

### ICTS Developments

The University upgraded all main campus uplinks to the data centre from 100Mbps to 1Gbps. A new server was acquired to improve services. Wifi coverage was also increased. A solar backup system was installed, as the University works on achieving a minimum of 12 hours of backup power. The University renewed several licenses to improve service delivery, including Microsoft Office, Windows 11, Windows Server 2022, and FortiGate-1200D.

The University began migrating from Google Classroom to MOODLE through the training of all departmental technicians and support staff. Microsoft Teams was also adopted for conferences and meetings as it has recording capabilities and allows external users to login.

The university has interfaced with five financial institutions to automatically receive the online payments made by students.

### Staffing

During the year under review, there were 1,211 employees against the total establishment of 1,806. Forty-five (45%) were academic and 55% were support staff.

To fill the vacant positions, the University employed 48 full-time Lecturers and appointed 15 senior officers.

Five (5) academics were promoted to full Professor grade, 13 to Associate Professor grade and 44 to Senior Lecturer Grade. By the end of the year, the University had six (6) full Professors, 17 Associate Professors and 55 Senior Lecturers. Twenty-nine (29)

academics were tenured.

The University off-boarded 65 employees through resignation (55), dismissal (3), retirement (4), and death in service (3).

To improve on the performance of the employees, the University facilitated members of staff from various sections to pursue studies in different areas of interest.

### Student enrollment

The enrollment of students increased slightly from 10,248 in the year 2021 to 10,522 of which 8,408 (80%) were undergraduate and 2,114 (20%) were postgraduate. There were 13 PhD students (8 females and 5 males). Of the undergraduates, 43% were female and 56% were male while in the postgraduate 44% were female and 56% were male.

The University experienced an increase in the enrollment of students in the STEM programmes, as 63% of the students were in the STEM disciplines compared to 60% in 2021.

### Sports and Recreation

In 2022 NUST students excelled in various sporting competitions locally, regionally and internationally. The University successfully hosted the Zimbabwe Universities Sports Association (ZUSA) Cluster 1 games from 9 to 12 March 2022. During the ZUSA games, our students won 9 gold, 11 silver and 13 bronze medals.

In the Zimbabwe Tertiary Sports Union (ZTISU) games, NUST students came home with 7 gold, 3 silver and 2 bronze medals. They won 3 gold and 3 silver medals in the Confederation of Universities and Colleges Sports Association (CUCSA) Games. In the Federation of African University Sport (FASU) league games, students won a silver medal. Four (4) student-athletes were selected for the Presidential Sports Awards.

### Health and Welfare

A total of 2,053 patients, 54% female and 46% male were served at the NUST Clinic from January to December 2022. To improve on our services, three (3) nurses attended the Comprehensive Sexual Education and Reproductive Health training and another three (3) were trained in Youth Friendly services with support from our resident partner, UNESCO.

In 2022, the student counselling section provided a wide range of counselling services to students, including individual counselling, group counselling, and crisis counselling. The University launched an online counselling platform, which resulted in a significant increase in the number of students served by the student counselling Unit. Twenty-five (25) student peer educators were trained with the help





of SAYWHAT, another University’s resident partner. New programmes were developed to promote student mental health and well-being.

### Scholarships

A total of 255 students were supported through scholarships from CAMFED (4), Delta Corporation (13), Anglo-American Chairperson’s Fund (5), China-Zimbabwe Exchange Centre (11), Mthwakazi Scholarship (7) and Higher Life Foundation (215).

### Challenges

The year under review had some challenges but the University devised strategies to limit their impact. The challenges included loss of critical staff, failure to attract and retain the critical staff due to low salaries.

The delay in the automation of the human resources processes continued to negatively affect the workflow in the Section.

The Health Services Section also experienced a challenge of a shortage of nurses with only two (2) manning the clinic against the establishment of 6.



*NUST Campus radio goes on air*

# CHANCELLOR



**HIS EXCELLENCY AND CHANCELLOR, DR CDE E.D. MNANGAGWA**  
 LLB (University of London), Hon. PhD (NUST), Hon. LLD (MSU), Hon. DPIR  
 (GZU), Hon. LLD (UZ) Hon. D. Eng. (CUT), Hon PhD (NDU), LLD, LLB, LPI  
 (University of Zambia), Hon PhD (BUSE), DTech (HIT).

## MINISTRY OF HIGHER AND TERTIARY EDUCATION, INNOVATION, SCIENCE AND TECHNOLOGY DEVELOPMENT



### **Professor dr Amon Murwira**

*Minister of Higher and Tertiary  
 Education, Innovation, Science and  
 Technology Development.*

PhD in Geo-Information Science  
 (GIS,RS) for Environmental Systems  
 Analysis and Monitoring  
 (The Netherlands), MSc in  
 Environmental Systems Analysis and  
 Monitoring (The Netherlands), BA  
 (hons) in Geography (UZ).



### **Mr Raymore Machingura**

*Deputy Minister of Higher and  
 Tertiary Education, Innovation, Science  
 and Technology Development.*

Dip in Telecoms Corp (PTC, ZIM), Dip  
 In Telecoms Mgt (cwc, UK), Advanced  
 Technical Training certificate (Germany)  
 Full Technological Certificate T1-T5  
 (City & Guilds London), Further  
 Education Teachers Certificate  
 (Harare Poly), Certificate in Finance  
 for Non Financial Managers,  
 T5 Organisational Planning, GSM  
 Siemens and Project Planning.



### **Prof Fanuel Tagwira**

*Permanent Secretary for Higher and  
 Tertiary Education, Innovation, Science  
 and Technology Development.*

Dphil in Soil Chemistry and Fertility  
 (UZ), MSc in Soil Chemistry  
 (Reading University, UK) BSc in  
 Biology and Chemistry (National  
 University of Lesotho).



# NUST COUNCIL



**Prof Lindiwe Majele-Sibanda**  
*Vice-Chairperson*

*PhD in Animal Physiology and Nutrition (University of Reading, U.K), MSc in Animal Science (University of Reading, U.K) and BSc in Animal Science (University of Alexandria, Egypt).*



**Ms Siphathisiwe Maisiri-Mguni**

*Master's in Business Administration (NUST), Corporate Management Diploma (IAC), and a Postgraduate Diploma in Management (NUST).*



**Mr Collence Chirume**

*BA (Hons) in Accounting and Finance (University of Derby), Association of Chartered Certified Accountant (ACCA), Executive Masters of Business Administration (NUST), Certificate Theory in Accounting (Institute of Chartered Accountants in Zimbabwe) and an Advanced Diploma in Taxation (Zimbabwe Revenue Authority).*



**Mr Irvin Kunene**

*MSc in Geochemistry (University of Leeds, U.K) and a BSc (Honours) in Environmental Science (University of Plymouth, U.K).*



**Eng Irene Kamutero**

*Diploma in Project Management, ND in Mechanical Engineering Draughting and Design Technology (Harare Poly), BSc Hons in Mechanical Engineering Systems and Operations Management (UZ).*



**Dr Edwin Sibanda**

*Bachelor of Medicine and Bachelor of Surgery (UZ).*



**Dr Eng Farai Karonga**

*PhD in Mining Engineering, Masters in Economic and Commerce (both University of North Rhein Westphalia, Germany), BSc (Hons) in Pure Mathematics (University of East Anglia, U.K).*



**Mrs Priscilla Munyeza**

*BSc Hons Degree in Economics (UZ), a Master's Degree in Business Administration (Nottingham Trent University, U.K) and an Institute of Bankers' Diploma*



**Mr Caleb Mutandwa**

*Bachelors of Law Honours Degree (UZ) and Masters in Human Rights Law (University of Ulster)*



## PRINCIPAL OFFICERS OF NUST



**Prof. Eng. Mqhele E. Dlodlo**  
*Vice-Chancellor*

*Doctor (TU Delft), M.S.E.E. (Kansas State University), B.S. (Independent), B.S.E.E. (Geneva College).*



**Prof. Yogeshkumar Naik**

*Pro-Vice-Chancellor, Research and Academic Affairs  
PhD Bio-Chemistry (UZ), MSc Bio-Chemistry (Bombay),  
BSc Chemistry (Bombay)*



**Dr. Eng William Goriwondo**

*Pro-Vice-Chancellor Innovation and Business Development  
PhD in Business Administration (NUST), MSc in Manufacturing  
Systems & Operations Management (UZ), Bachelor of  
Engineering Honours in Industrial Engineering (NUST), Post  
Graduate Diploma in Higher Education (NUST)*



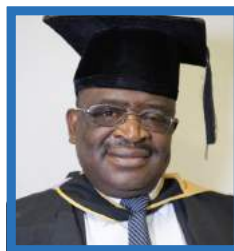
**Mr Biggy Ngwenya**  
*Registrar*

*MSc in HRM (GZU), MBA (NUST), BSc Hons in  
Sociology (UZ), Diploma in Training Management  
(IPMZ), Certificate in Education (Hillside Teacher's  
College), Higher Certificate in Motivation (IPMZ),  
Higher Certificate in Research Methods (IMPZ).*



**Ms Ethel Pedzisai Kawome**  
*Acting Librarian*

*MSc in Library and Information Science  
(NUST), BSc in Library and Information  
Science (NUST), National Diploma in  
Library and Information Science (Harare  
Polytechnic).*



**Mr Stanford Ndlovu**  
*Bursar*

*Bachelor of Technology Honours  
Degree in Accountancy (UZ); Chartered  
Institute of Management Accountant (CIMA)*





# KEY RESULTS AREAS

# GOVERNANCE AND ADMINISTRATION

Table 1: Council and Council Committees Attendance Register (Jan-Dec 2022)

	Meetings held Meetings attended	COUNCIL MEETING		EXCO		FINANCE COMMITTEE		AUDIT COMMITTEE		RISK MANAGEMENT COMMITTEE		INVESTMENT COMMITTEE		SALARIES AND CONDITION OF SERVICES COMMITTEE		CAMPUS DEVELOPMENT COMMITTEE		ACADEMIC STAFF PROMOTIONS		FEES REVISION COMMITTEE	
		2	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	Engineer A Mabena	2	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Professor L M Sibanda	4	3	3	1	-	-	2	2	-	-	2	2	-	-	-	-	2	2	-	-
3	Prof N Rudhumbu	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Mr C Chirume	4	4	3	2	-	-	3	3	1	1	-	-	-	-	-	-	-	-	2	1
5	Engineer I Kamutero	4	4	3	2	-	-	-	-	2	2	3	3	-	-	3	2	-	-	-	-
6	Engineer F Karonga	4	2	-	-	2	1	-	-	-	-	3	2	-	-	3	3	-	-	-	-
7	Mr I D Kunene	4	4	3	2	-	-	-	-	3	3	-	-	1	1	3	2	-	-	-	-
8	Ms S Mguni-Maisiri	4	4	3	3	3	3	2	1	-	-	-	-	1	1	-	-	1	1	-	-
9	Mr C Mutandwa	4	3	3	3	3	2	-	-	3	3	-	-	-	-	-	-	-	-	2	2
10	Dr E Sibanda-Mzingwane	4	3	3	3	-	-	1	1	-	-	-	-	-	-	-	-	2	2	-	-
11	Mrs P Munyeza	4	3	-	-	3	0	1	1	-	-	3	0	-	-	-	-	-	-	-	-
12	Dr S Gondo	2	1	-	-	-	-	-	-	-	-	-	-	-	-	3	1	-	-	-	-

## HUMAN RESOURCES

The Section is mandated with ensuring that the University has relevant human skills to efficiently and effectively meet its goals. The Human Resources Section was involved in several employee resourcing activities, including recruitment and selection, promotions and tenure, employee relations, leave management, and training and development.

### Activities Undertaken

The following are some of the diverse employee resourcing activities undertaken by Human Resources Section in 2022:

- Aligning human resource policies and procedures to national legislation and University policies;
- Attracting, motivating and retaining competent employees;
- Training and human capital development;
- Staff wellness programmes were conducted in conjunction with First Mutual Life.

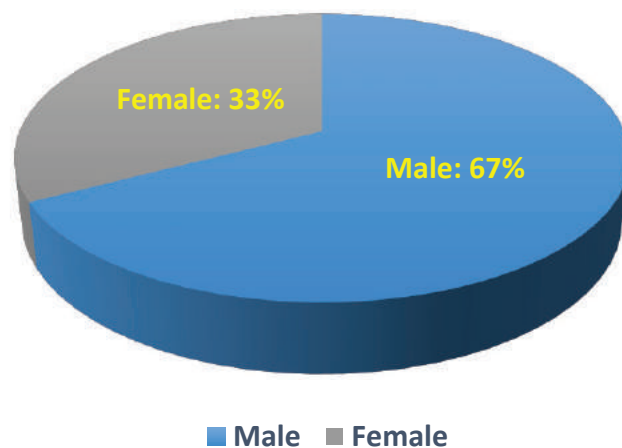
### Staff establishment

The following table shows the required total staff

establishments versus the total number of staff that were in post as at 31 December 2022. During the year under review, there were 1211 employees versus the total establishment of 1806.

Figure 1: Teaching Staff establishment

### Teaching Staff



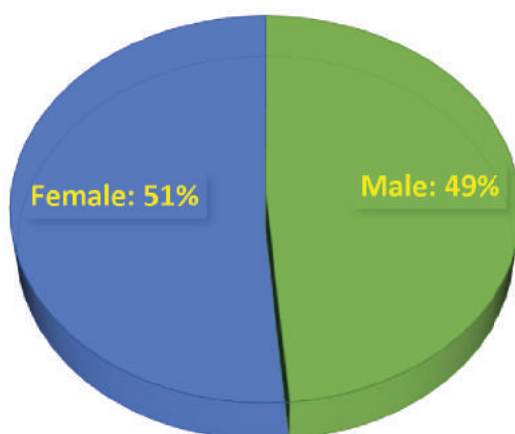
The total number of teaching staff was 547 consisting of 368 males and 179 females. This is against the total establishment of 820. There were 273 vacancies resulting in 46% vacancy rate.





Figure 2: Non-teaching Staff establishments

### Non-teaching Staff



The total number of non-teaching staff was 664 consisting of 323 males and 341 females. This is against the total establishment of 986. There were 332 vacancies resulting in 54% vacancy rate.

Table 2: Senior Teaching Staff

Designation	Male	Female	Total
Professor	6	0	6
Associate Professor	14	3	17
Senior Lecturer	38	17	55
<b>Grand Total</b>	<b>58</b>	<b>20</b>	<b>78</b>

## APPOINTMENTS

### Appointments to Senior Positions

The University appointed fifteen (15) senior officers in 2022.

Table 3: Senior Officers Appointed

#	Designation	Date
1	Chief Internal Auditor	03 January 2022
2	Dean, Faculty of Engineering	01 February 2022
3	Director Business Development, Innovation and Business Unit	01 April 2022
4	Director, Innovation and Technology Transfer	01 April 2022
5	Dean of Students	01 May 2022
6	Deputy Librarian	01 May 2022
7	Quality Management Officer	03 May 2022
8	Institutional Research Officer	03 May 2022
9	2 x Project Officer	03 May 2022
10	Director, Research and Internationalisation	01 June 2022
11	Director, Information and Communication Technology Services	01 July 2022
12	Director, Physical Planning, Works and Estates	01 July 2022
13	Network Manager	05 August 2022
14	Dean, Faculty of The Built Environment	01 December 2022

### Academic Staff Appointments

In December 2022, a total of forty-eight (48) full-time Lecturers were appointed, two (2) of which were members of staff who were already employed by the University in various capacities.

### Non-Teaching Staff Appointments

Six (6) members of staff were appointed during 2022 to fill vacant positions across various non-teaching departments and one (1) of them was a promotion from within the University.



## PROMOTIONS AND TENURE

### Teaching Staff

The Academic Staff Promotions Committee sat thrice in 2022 to consider applications for promotion. The Committee was guided by the provisions of Ordinance 28 and the ZIMCHE requirements.

### Applications for promotions

- i. Application to Full Professor Grade: The Committee received five (5) applications for promotion to full Professor grade and all the applications satisfied the criteria for promotion.
- ii. Application to Associate Professor grade: The Committee received fourteen (14) applications for promotion to Associate Professor grade and of these thirteen (13) applications were successful and only one (1) application was not successful.
- iii. Application to Senior Lecturer Grade: The Committee considered forty-four (44) applications for promotion to Senior Lecturer Grade and all of them were successful.

### Applications for Tenure

A total of twenty-nine (29) applications were confirmed for tenure.

## LEAVE MANAGEMENT

### Contact Leave

A total of 31 members went on Contact Leave. 29 of them were members from the teaching staff whilst 2 of them were from the senior administrative staff.

### Sabbatical Leave

6 members from the teaching staff went on Sabbatical Leave.

### University Leave Liability

As at 31 December 2022, 65.8% of employees had accumulated ninety days and above, which increased the leave liability. The reason for the substantial increase in the leave balance can be attributed to new work concepts which were adopted against the backdrop of COVID-19 that resulted in staff not taking their accrued leave days. Employees were constantly encouraged to go on leave in order to manage the leave liability of the University.

## STAFF ATTRITION

During the year 2022, the University off-boarded a total of sixty-five (65) employees through various means of attrition and details are indicated in the table below:

Table 4: Staff Attrition

Type of attrition	Teaching	Non-teaching	Total
Resignation	28	27	55
Dismissal	1	2	3
Retirement	2	2	4
Deceased	2	1	3
Expiry of contract	0	0	0
<b>Grand Total</b>	<b>33</b>	<b>32</b>	<b>65</b>

## STAFF RELATIONS

### Discipline Management

During the year under review, six (6) members of staff appeared before the Staff Disciplinary Committee charged with various acts of misconduct in terms of Statutory Instrument 15 of 2006. Four (4) of them were members from the non-teaching staff and 2 of them were from the teaching staff. Three (3) members had their contracts terminated, two (2) of them were given Final Written Warnings and one (1) of them was acquitted as per the resolutions of the Committee.

## TRAINING AND DEVELOPMENT

In order to continuously improve the performance of the employees, the University allowed its members from various sections to pursue studies on different areas of interest. That was done in order to give employees a better understanding of their responsibilities and the knowledge and skills they needed to perform. Several training and development programmes and activities were thus undertaken during the year. These included seminars and workshops, with much of the training being organised and facilitated internally.

Training programmes and activities included the following:

- Induction of new employees
- Customer Care
- Intellectual Property
- Intellectual Quality self-ratings and Institutional Audits
- Performance Planning Workshops
- Project Management
- Refresher course for Security Staff
- Sexual Harassment in conjunction with UNESCO
- Awareness training on alcohol, drug and substance abuse.

## CHALLENGES

- The University lost critical staff due to resignations, and that negatively impacted on the attainment of the University’s strategic objectives.
- Attracting and retention of critical staff became a challenge because of the low salaries, which were eroded by inflation due to the uncertainty of the economic environment.
- The delay in the automation of the human resources processes continued to negatively affect the workflow in the Section.

## STUDENT ENROLMENT

Table 5: Enrolment Statistics breakdown by Faculty and Gender

Faculty	Undergraduate			Masters		
	Female	Male	Total	Female	Male	Total
Applied Sciences	655	1174	1829	121	159	280
The Built Environment	351	724	1075	40	73	113
Engineering	535	1252	1787	23	85	108
Environmental Science	266	183	449	18	21	39
Commerce	1145	979	2124	532	634	1166
Communication and Information Science	356	192	548	79	62	141
Medicine	119	79	198		2	2
Science and Technology Education	189	209	398	112	140	252
<b>Overall Totals</b>	<b>3616</b>	<b>4792</b>	<b>8408</b>	<b>925</b>	<b>1176</b>	<b>2101</b>

Table 6: Summary Enrolment Statistics

	Female	Male	Total
<b>Undergraduate</b>	3616	4792	8408
<b>Masters</b>	925	1176	2101
<b>PhDs</b>	8	5	13
<b>Grand Total</b>	<b>4549</b>	<b>5973</b>	<b>10522</b>





**SPORTS AND RECREATION**

In 2022 the Sports and Recreation department providing students with opportunities to participate in various sports and recreation activities such as Zimbabwe Universities Sports Association (ZUSA), Zimbabwe Tertiary Sports Union (ZTISU) games,

Confederation of Universities and Colleges Sports Association (CUCSA) Games, Federation of African University Sport (FASU) league games, recreational invitational tournaments like Bulawayo Tertiary Institutions Sports Association (BUTISA) and other friendly matches.

Table 7: Highlights of the year include

SPORT CODE	ZUSA	ZTISU	CUCSA	FASU
Tennis (Men)	Bronze	Gold		
Athletics	4 Gold, 4 Silver, 3 Bronze	1 Gold, 1 Silver, 1 Bronze	2 Gold, 1 Silver	Silver
Table Tennis (Women)	Gold	Gold		
Table Tennis (Men)	Bronze	Bronze		
Chess (Women)	Gold	Gold	Gold	
Cricket (Men)	Gold	Silver		
Pool (Men)	Silver	Gold		
Darts (Men)	Bronze	Gold		
Golf (Men)	Silver			
Karate (mixed)	1 Gold, 3 Bronze			
Taekwondo (mixed)	1 Gold, 4 Silver, 1 Bronze	Silver		
Volleyball (Men)	Silver	Gold	Silver	
Basketball (both)	Bronze		Silver	
Handball (both)	Bronze			
Football (Men)	Bronze			

- The University successfully hosted the ZUSA Cluster 1 games from 9-12 March 2022.
- 4 student-athletes were selected for the Presidential Sports Awards.

**COUNSELLING SERVICES**

In 2022, the student counselling Unit provided a wide range of counselling services to students, including individual counselling, group counselling, and crisis counselling.

Highlights of the year include:

- The launch of a new online counselling platform.
- A significant increase in the number of students served by the student counselling Unit.
- The development of new programmes to promote student mental health and well-being.

Challenges faced in 2022 include:

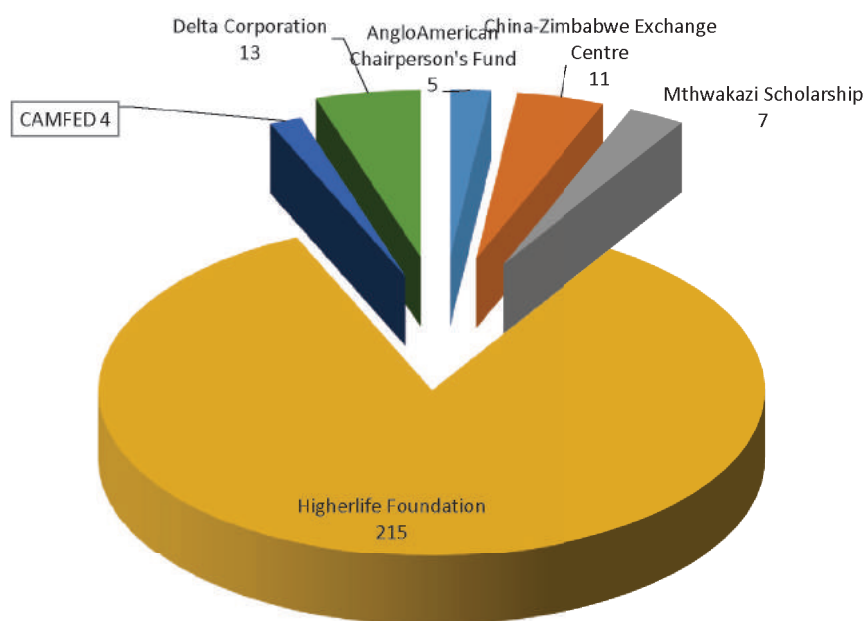
- The ongoing COVID-19 pandemic, increased the demand for mental health counselling services.
- A shortage of mental health counsellors.
- A lack of awareness of mental health resources among some students.
- Online counselling is a challenge due to the high costs of data.



### SCHOLARSHIPS

A total of 255 students were supported through scholarships as shown below:

Figure 3: Student Scholarships



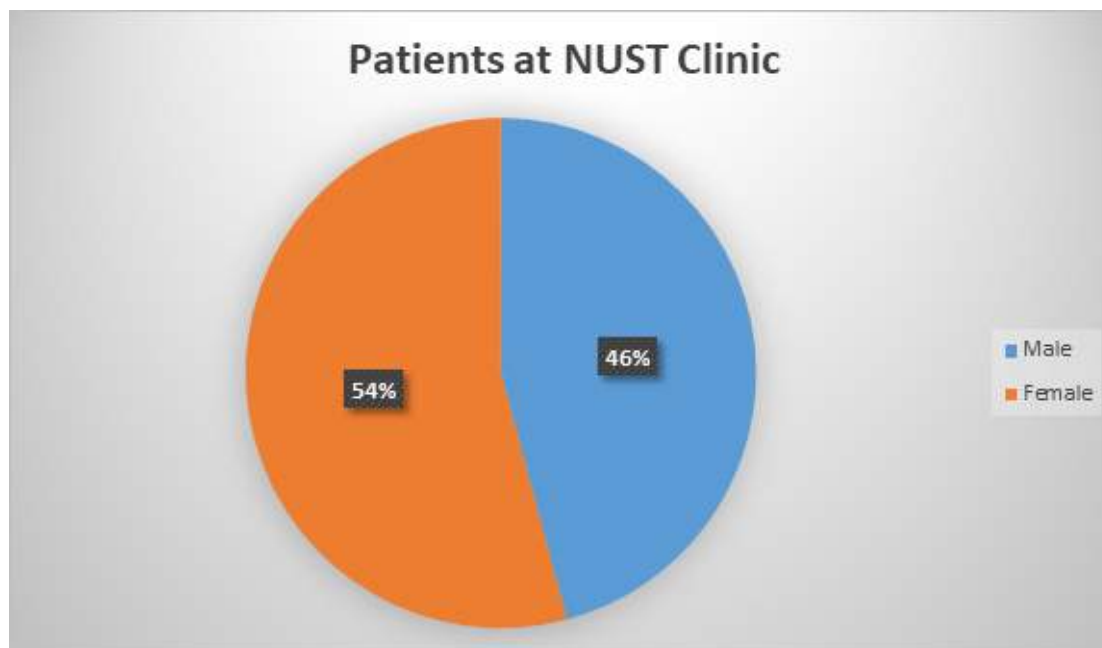
### HEALTH SERVICES

In 2022, the student health centre provided a wide range of services to students, including primary care, mental health counselling, and health education.

#### Statistics of patients served at NUST Clinic

• A Total of 2053 patients were served at the NUST Clinic from January to December 2022, broken down as follows:

Figure 4: Statistics of patients served at NUST Clinic



A total of 941 males and 1112 females were treated at the NUST Clinic. Thirty-two (32) patients were referred for further management: 7 males and 25 females. Eight (8) patients tested positive for COVID-19 during the period under review: 4 males and 4 females.



### Trainings and workshops attended

- Three nurses attended the Comprehensive Sexual Education Reproductive Health training.
- Three nurses were trained in Youth Friendly services, thanks to UNESCO, the University’s resident partner.
- A total of 25 peer educators were trained with the help of SAYWHAT, another University’s resident partner.
- Fresh Hope Mental Health Workshop was conducted in August 2022.

### Challenges

- The Health Services Section has a shortage of two (2) nurses for it to manage the student-nurse ratio.
- The current nursing staff still has financial challenges to enable them to renew certificates for Rapid HIV practicing Certificates.



*NUST medical staff and visiting Iranian specialist doctors exchange notes.*



*Vice-President, Gen (Rtd) Dr C.G.D.N. Chiwenga visits the NUST stand at the ZITF 2022.*



# HUMAN CAPITAL DEVELOPMENT

## TEACHING AND LEARNING HIGHLIGHTS

- **Blended Learning:** Despite the decline in the COVID-19 pandemic, blended learning continued with Faculties utilising e-Learning platforms. The University introduced Moodle as the e-Learning platform.
- **Field trips, practicals and examinations** were successful conducted. All examination question papers and scripts were moderated by External Examiners.
- **MBKS:** The University successfully aligned all programmes with the ZIMCHE Minimum Body of Knowledge (MBKS). To ensure smooth teaching of Entrepreneurship course to all students, the University is establishing a dedicated department and mobilising the necessary resources.
- **Review of Programmes:** Programmes in the Faculty of the Built Environment were transformed from BSc General Degrees to BSc Honours Degrees, incorporating a one-year industrial attachment. These restructured programme formats were approved by the Academic Board and are currently awaiting ZIMCHE approval. Nonetheless, a smaller number of students opted to remain in the General degree program formats and are expected to graduate in 2023.
- **Equipment:** To support research and enhance the teaching and learning experience, the University procured 400 laptops for academic staff. Furthermore, the University acquired Edurole, a student management information system. Towards the end of the year, customisation and development of Edurole commenced, including the development and deployment of the online application module.

## NEW PROGRAMMES

Two (2) new programmes were launched in the year under review and these are the Bachelor of Science Honours in Geographical Informational Systems and Remote Sensing, and the Bachelor of Commerce Honours Degree in Economics and Econometrics.

Another new programme, BSc Honours Degree in Nursing is set to enrolled its inaugural students in the 2023/24 academic year. The programme targets A-Level graduates without prior nursing experience.

Table1 : Programmes Accredited with ZIMCHE in 2022

Faculty	Department	Programme	Date Approved
Applied Science	Forest Resources and Wildlife Management	BSc GIS and Remote Sensing	17/2/2022
Commerce	Banking	BSc Economics and Econometrics	26/1/2022

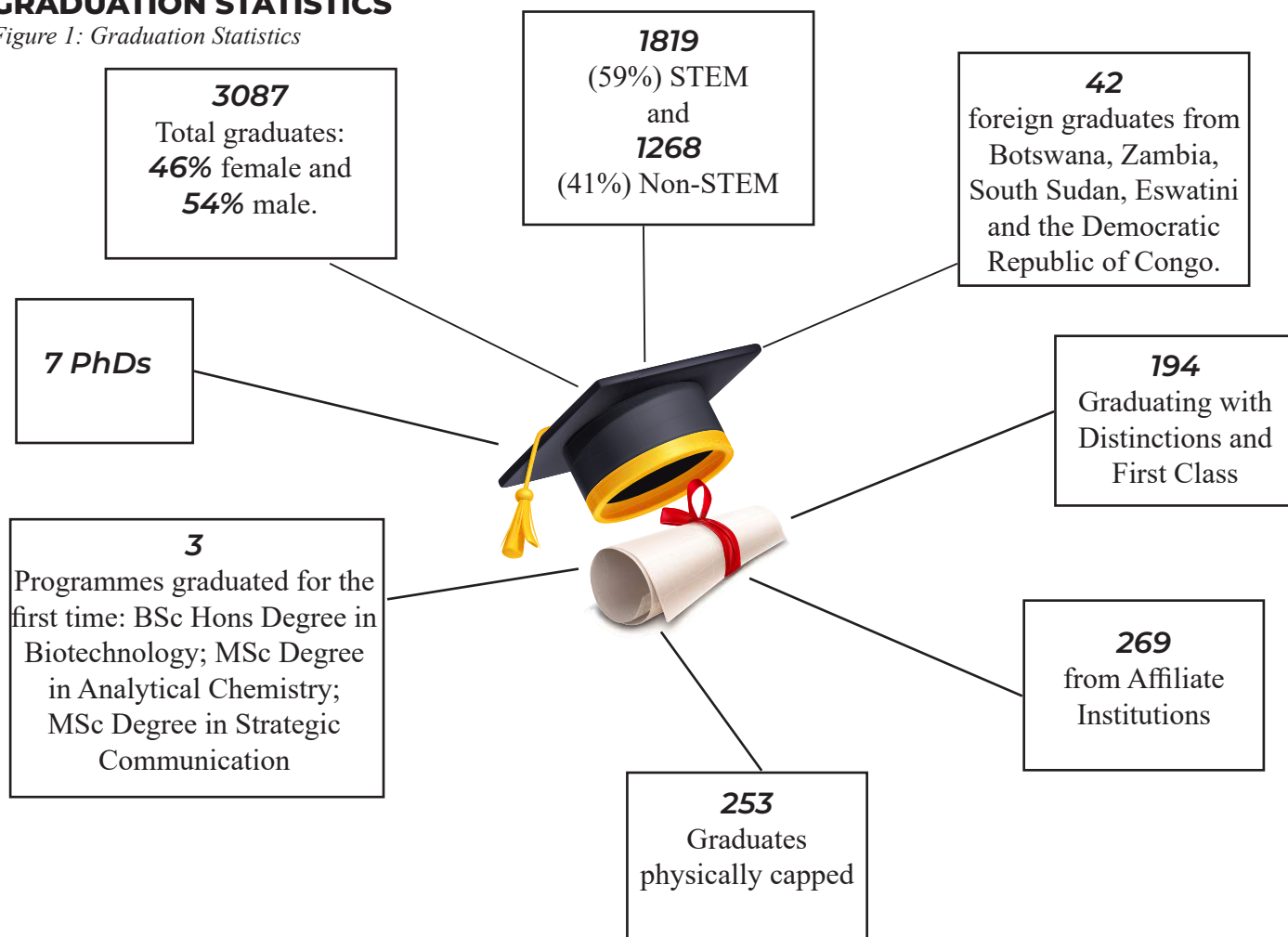
Table2: Programmes submitted and awaiting approval by ZIMCHE

Faculty	Department	Programme	Status
Applied Science	Environmental Science and Health	MSc Climate Change and Sustainable Development	Re-submitted on 4/1/22
Commerce	Business Marketing	MSc Strategic Marketing	Clarification awaited
	Business Management	MSc Strategic Management	Peer reviews 9/6/2020
	Graduate School of Business	Master in Business Leadership	Awaiting response
Communication and Information Science	Harare Polytechnic	BTech Hons in Mass Communication	Conditional approval 18/6/18. Application revived
Medicine	Nursing and Midwifery	BSc Nursing Science	Awaiting response



**GRADUATION STATISTICS**

Figure 1: Graduation Statistics



**INDUSTRIAL ATTACHMENT**

Challenges emanating from the COVID-19 pandemic impacted negatively on experiential learning for students. But, Faculties successfully attached and assessed students virtually for the academic year using a staggered approach. The University is considering reviewing the Industrial Attachment model through consultations with industry. The Industrial Attachment Programmes is long overdue for review since its inception in the 1990s.

**INNOVATION AND INDUSTRIALISATION**

The Faculty of the Built Environment was the torch bearer actively engaged in consultancy work at local and national levels. The main activities involved designs and preparation of Bills of Quantities. The major clients were Government of Zimbabwe, Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development (MHTEISTD) and the Zimbabwe National Geospatial and Space Agency (ZNGSA) as shown below.

Table 3: Consultancy Projects

Project Name	Client	Status
1 Tugwi-Murkosi Combination Master Plan	Government of Zimbabwe	Approved by Client
2 ZIMCHE Headquarters	MHTEISTD	Design Development
3 Chivhu Industrial Park	MHTEISTD	Preliminary designs
4 Mazoe Project	ZNGSA	Designs complete
5 Hwange College of Education	MHTEISTD	On-going
7 Factory Shells	NUST	On-going
8 Boundary Wall	NUST	On-going
9 Central Plaza	NUST	On-going

Table 4: Publications Produced

FACULTY	NUMBER OF PUBLICATIONS
Applied science	227
Environmental Science	13
Engineering	33
Medicine	0
Built Environment	3
Science and Technology Education	30
Communication and Information Science	37
Commerce	66
<b>Total</b>	<b>409</b>
<b>Annual Target</b>	<b>230</b>
<b>Variance (Positive)</b>	<b>+179</b>

### COLLABORATIONS AND COMMUNITY ENGAGEMENT

A total of 30 community collaborations were carried out during the year under review. These ranged from private to public institutions and adoption of communities across faculties and departments. For example, Faculty of Commerce worked with Schools and disadvantaged communities in Lupane, Mbire, Rusape, Chiredzi, Mwenezi, Mangwe, Beitbridge, Gwanda, Nkayi, Buhera and Mutoko. Notable are efforts at reviving and strengthening NUSTSEP which had been affected by the COVID-19 pandemic. Some members of the Faculty of Medicine continue to actively participate in social responsibility through the Zimbabwe Medical Association (ZIMA) programs.

### RESEARCH AND INTERNATIONALISATION

In 2022, the operations of the Research and Internationalisation Office (RIO) were back on track, following the COVID 19 induced disruptions.

#### Workshops

RIO hosted 8 workshops for academics and 12 for Postgraduate students. An average of 41 participants attended the postgraduate workshops. The workshops were held online using the Google Meet Virtual Platform and Microsoft Teams Meeting. While most of the presenters were from NUST, there was a presenter each from the Medical Research Council of Zimbabwe (MRCZ), BA ISAGO University in Botswana and the North West University in South Africa. The following issues were covered by the workshops:

- Research Ethics and Integrity
- Utilising e-Resources at NUST
- Choosing a Research Topic
- Proposal Writing
- Writing a Literature Review
- Citation and Referencing
- Qualitative/Quantitative Mixed Methods in research
- Data Analysis - Nvivo Data Analysis
- Data Analysis - Introduction to SPSS
- Manuscript Writing

#### NUST Journals

The Southern African Journal of Communication and Information Science (SAJCIS) and the Zimbabwe Journal of Science and Technology (ZJST) were indexed into the University of Cape Town’s Continental Platform to increase the visibility of the articles.

#### NUST Research Day



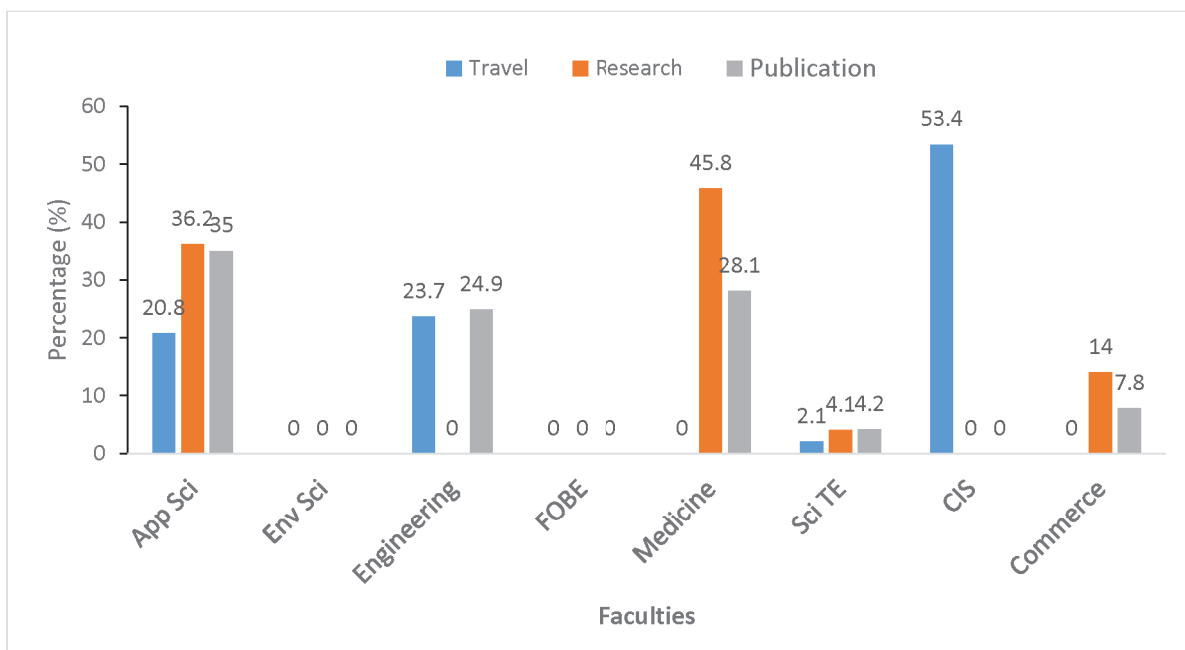


The 9th NUST Annual Research Day had 20 papers that were presented. The Research and Development Board sponsored monetary prizes for the best paper for Senior and Junior researchers.

**Research and Development Board**

In 2022, the Research and Development Board approved 58 grant applications. The Board disbursed a total RTGS\$31 359 185.80 for Research Grants, Publication Fees and Conference Grants. Eight (8) Research Grant applications were approved. The funds allocation is indicated below.

Figure 2. Distribution of research, travel and publication grants in 2022 by faculty



**Outreach Programmes:** The Zimbabwe Journal of Science & Technology and the Southern Africa Journal of Comm

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## INFORMATION AND COMMUNICATION TECHNICAL SERVICES

The ICTS is a service Department responsible for the digital transformation of the University. The Department provides a fully integrated, efficient and dynamic information system to service the information needs of the Students, Academic Staff, Library and Administration to enhance their learning experience, teaching, research and work.

### Notable achievements

- **EDUROLE installation** as the new student management information system, replacing Navision. This will improve management of all student records (financial and academic).
- **Upgrading of all main campus uplinks:** The installation of a new core router has resulted in upgrading all main campus uplinks to the data centre from 100Mbps to 1Gbps.
- **New Server:** Procurement of a new NAV/ERP server in order to boost current hardware technology with computing resources of 128 CPU cores, 256GB RAM and Solid-State Disks (SSDs).
- Increasing Wi-Fi Coverage through the installation of 13 Wi-Fi Access Points.
- **Installation of Solar Backup System:** A scalable system to achieve a minimum of 12 hours of backup power to cover the dark hours of the night.
- **Bandwidth Upgrade** from 930Mbps to 1,085Gbps.
- **Improving telephone system:** Voice over Internet Protocol (VoIP) telephone system expansion through installation of VoIP handsets across the main campus and satellite offices.
- **Cyber Security Training** in the Network and Hardware section. This is a Cyber Security course offered by the NUST Cisco Academy.
- **Network Firewall hardening** after a review of all security policies and Access Control Lists (ACLs) configured on the network firewall.
- **Acquisition of Licenses:** The University renewed several licences to improve service delivery, for example, Microsoft Office, Windows 11, Windows Server 2022, FortiGate-1200D.
- **e-Learning on MOODLE:** The University began the migration from Google Classroom to MOODLE through the training of all departmental technicians and support staff.
- **Migration to Microsoft Teams:** The University used Microsoft Teams for conferences and meetings as it has recording capabilities and allows external users to access meetings.
- **Acquisition of Hardware for teaching:** A total of 200 laptops were purchased for the teaching staff to reduce the lecturer-to-computer ratio.
- **Policy Review:** Several ICT policies were reviewed and sent to Senate ICT committee for adoption, for example, NUST ICT Acceptable Use Policy and Procedures, Bring Your Own Device (BYOD) Policy.
- **Interface with financial institutions for receipt of fees:** The university has interfaced with five financial institutions to receive payments made by students.



# THE HYBRID LIBRARY

## University Library

The University Library is much more than a repository of books and resources. It plays a multifaceted role in supporting academic excellence, research, community engagement, innovation and industrialisation. By providing access to information resources, fostering information literacy skills, and creating spaces for learning and collaboration, the Library becomes an integral part of the academic ecosystem, empowering minds and enriching communities. 2022 was not different as the University Library continues to strive towards providing a 21st Century Library.

Table 1: Key Library Statistics on Resources, Services and Facilities in 2022

	INDICATOR	2022
1.	Level of financial support per student (RTGS)	ZWL3,168.20 (US10.01)
2.	Total Library Holdings (print)	98191
3.	Total Library holdings per student	6.6
4.	Number of electronic books	332324
5.	Number of electronic databases	40
6.	Number of printed serial titles	2
7.	Number of electronic serial titles	230971
8.	Number of book donations	1790
9.	Seating Capacity	542
10.	Number of library run whatsapp groups	48
11.	Number of e-resources training workshops	26
12.	Percentage increase in circulation of print resources	435
13.	Total number of publications in the Institutional Repository	1296

## Community Engagement

The University Library also has an obligation to build connections, grow relationships and increase the influence of the University in the community. In 2022 the Library participated in the following activities:

- Hosted librarians from the Parliament of Zimbabwe in June 2022. Their interest was in the application of electronic systems in library service delivery, incorporation of social media platforms in marketing and promotion of library services and acquisition of electronic resources.
- Hosted the Harare Institute of Technology (HIT) Librarian who came in for a contact visit in May 2022. His area of focus was Open Access and Open Science including the use of the Institutional Repository for research, teaching and learning.
- The University through the Library made a substantial donation of 1800 books to 25 libraries in the Bulawayo Metropolitan Province. It donated the President of Zimbabwe, His Excellency, Cde Dr Emmerson Dambudzo Mnangagwa’s Biography, titled “A Life of Sacrifice”.
- The Library hosted the librarian from ZRP Ntabazinduna Training Depot who wanted to learn and gain experience on the processes and procedures required to manage an academic library. He joined the Library from August to September 2022.
- The Library hosted 10 Learner Librarians from Christian Brothers College (CBS) in Bulawayo who wanted to have a feel of the library environment and the processes involved in running a library for an afternoon.

## Milestones

- The NUST Institutional Repository (IR) was revived and is now available for access.
- The Library conducted a stock take of its print resources after 15 years.
- Migration from Millennium to KOHA Integrated Library Management System. The Library began the process of migrating the Library platform from Millennium Integrated Library System to KOHA Integrated Library System. By end of 2022 the library was at 60% completion of the migration. Full adoption of the system was scheduled for 2023.
- The University Library established the Institutional Repository (IR) Policy. The IR Policy gives a guide on the stewardship of the IR, guide on the contents of the IR, responsibilities of the author and responsibilities





of the library. The IR Policy will ensure a more transparent and efficient running of the NUST Institutional Repository.

**Challenges**

The unavailability of foreign currency has hindered the University Library from acquiring adequate reading material in both print and electronic forms for its readers.

**The Library in Pictures**



*The Bibliographic Services Librarian explains Resource Description and Access (RDA) to the Parliament of Zimbabwe Librarians.*



*The Pro-Vice Chancellor for Innovation and Business Development, Dr Engineer William Goriwondo (third from the left) hands over the donation of the President’s Biography to libraries in Bulawayo.*



*Students studying at the NUST library*

# Innovation and Business Development

## Introduction

The major thrust of the Innovation and Business Development (IBD) was to raise awareness among academics and innovators about the importance of innovation disclosure. This development realised an increase in the number of innovations that were disclosed to the IBD. The businesses at IBD continued to run and there was diversification of the range of products being produced. The development and implementation of the consultancy policy realised

an increased uptake on consultancy projects by academics and other staff members.

## Innovation Hub Projects

A total of 11 projects were housed at the Innovation Hub and these had different levels of completion towards Intellectual Property (IP) registration and commercialisation. The Table below shows the projects that are at prototyping level at the Innovation Hub.

Table 1: Projects at the Innovation Hub

Project	Status	IP Application
Design of a system to monitor driver alertness and awareness.	Prototype was developed.	Not submitted
Design of a Pendulum Driven Stamp Mill	Prototype developed and modifications underway. IP application submitted	Submitted
Development of a sunscreen lotion for people living with Albinism	Experiments in progress to develop the best lotion. Two lotions developed so far and tests/experiments are underway to determine their level of sun protection.	Not submitted
Development of a Machine Learning Software that reports the presence of life-threatening injuries in trauma patients using X-Ray images.	The project was completed and prototyping done. Testing for the degree of accuracy and modifications are ongoing. IP application submitted.	Submitted
Design of a biofuel briquette-making machine	Prototype completed, working on developing life-size machine. IP application submitted.	Submitted
Determining the ability of solar thermal reflectors in raising the thermal energy of Vegetation-shaded pavements to equiviscous temperature.	A prototype was developed and tested. IP application Submitted.	Submitted
Taxi safety and robbery prevention system	Prototype completed and IP application submitted.	Submitted

## Software Development Centre (SDC) Projects

There was a lot of activity at the Software Development Centre with more projects being enrolled for further development and prototyping. The following collaborative projects were conducted with innovators identifying strengths among each other in order to form teams and work on projects.



Table 2: Projects at the Software Development Centre

Project Title	No of Students	Lectures	Status
Bulawayo Start up	2	1	Software user interface ready
Mobile WebRTC-based platform to support young upcoming researchers	2	1	Document ready
Using the IoT to control the Spread of Invasive Water	2	1	At proposal stage
Application of IoT in artisanal and small-scale mine shaft	3	3	Ideation
Inventory management for Small and Medium Enterprises in Zimbabwe	2	2	Concept note
Software testing tool	2	1	Research stage
Social platform for addressing gender inequality	2	5	Proposal
Eliminating middlemen by linking recyclers with recycling companies using IoT systems	3	5	Preliminary stage
LMS for bringing ICTS to learners in Rural areas	3	5	Proposal
Fish farming simulator App	2	2	Prototyping

### Projects for Commercialisation

- The Expandable Laboratory project was commercialised and production commenced in the year. Supply of the Expandable Lab to schools is continuing. The innovation received its first order from an international organisation that distributed the laboratories to different schools in Beitbridge.
- The sunscreen lotion got a grant for research to enhance the development of the sunscreen lotion. The grant of US\$250,000 over a period of three years is for making samples of the product leading to market testing and full commercialisation.

### NUST Farm

The University farm in Bulilima District is being designated as an Agro Industrial Park but occupation and projects is hindered by lack of water at the farm. Solar power system was installed to power boreholes but the water is only adequate for domestic use. Occupation of the homestead was initiated with NUST Security now stationed at the farm. A proposal to draw water from Mananda Dam, which is about 7km away from the farm was developed and funding for this phase of the project is being sought. Making of bricks at the farm to construct farm infrastructure commenced and is continuing.

### NOTABLE ACHIEVEMENTS IN YEAR 2022

The PPE and Apparels plant produced graduation regalia for all graduating students. The detergents plant diversified the range of products that they are now making. Development of new products being market-led.





Table 3: IBD Achievements

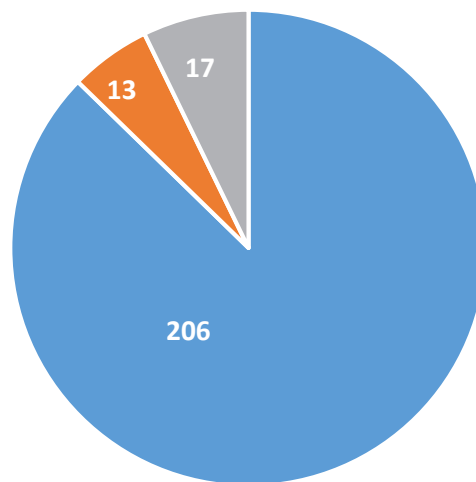
Department	Plant	Achievements
Graduation regalia	PPE	Manufactured 2,851 gown sets for 2022 Graduation Ceremony.
Honey Processing	Bulawayo Technology Centre (BTC)	800 units of 375ml bottles were manufactured.
Expandable Mobile Laboratory	Innovation Hub	<ul style="list-style-type: none"> <li>13 expandable mobile laboratories produced and sold.</li> <li>Concept extensively marketed to rural schools</li> </ul>
Detergents	Detergents plant	<ul style="list-style-type: none"> <li>4 new detergents products were developed and product samples made for full scale production in 2023.</li> </ul>

### Applied Genetic Testing Centre (AGTC)

The Applied Genetic Testing Centre (AGTC) conducted 236 DNA tests for paternity (206), bovine (13) and forensic investigations (17), as shown in the Figure below.

Figure 1: Statistics on DNA tests conducted in 2022

#### DNA Testing Statistics



■ Paternity ■ Bovine ■ Forensic investigation

### Manufacture of PCR kits

The AGTC received an Oligomaker machine for manufacturing of PCR kits. The machine was successfully installed at the Innovation Hub. One of the staff members went to Denmark for training by the Original Equipment Manufacturers (OEM) in December 2022. During the training, it was discovered that there were extra pieces of equipment needed to complement the main Oligomaker machine. Manufacture of PCR kits was earmarked to start in 2023.



AGTC Director Mr Zephaniah Dhlamini operates the Oligomaker machine

### Identification of Cyclone Idai victims

AGTC also collected the remains of Cyclone Idai victims swept by water to Mozambique and work to identify the victims for them to be given a decent burial is in progress.

### Collaborations and Partnerships

The IBD continued to develop collaborations and partnerships in areas of innovation, research and business development. Projects from the signed Memoranda of Agreements were assigned to innovators at the Innovation Hub.

A Memorandum of Understanding between NUST, Lupane State University (LSU), Engineers Without Borders (EWB) Norway and EWB Denmark was signed resulting in projects on agriculture, water and plastic waste recycling identified. A tour of Lupane District was concluded with identification of innovative community projects to be embarked on. A resolution to form EWB Zimbabwe was passed and it will be formed.



Engineers Without Borders (EWB) from Norway and Denmark in Lupane with NUST Engineers

### Revenue Generated

Revenue from innovations in the IBD are critical as some of the third income streams that are being generated at the University. Revenue stream from the Detergents and Chemicals Plant as well as the PPE and Apparels Plant continued to flow in as shown in the table below. The development and finalisation of the University Consultancy Policy saw uptake of consultancies by academics and other staff members increasing. The Table below shows revenue generated by IBD during 2022.

Table 4: Revenue generated from IBD projects

Source	Actual (USD\$)	2022 Target (USD\$)
Detergents Plants	18,248	20,000
Apparels Plant	180,701	220,000
NUST Garden	23,069	60,000
AGTC	28,860	-
Consultancy Income	91,500	100,000
<b>Total revenue generated</b>	<b>342,378</b>	<b>400,000</b>

### Conclusion

The Innovation and Business Development has developed policies that link the activities to those of Research Management, so that the IBD pipeline is filled with innovations from research in the faculties. Deliberate effort has been made and continue to be made about engagement with communities that include industry. The thrust on research and innovation is on the Government’s 16 priority areas in the strategic plan. Efforts on Industrialisation will be paramount in the year 2023 and beyond.



# Contracts Signed in 2022

No.	Contract Name	Department	Date Signed	Purpose
1	MoU between NUST & Embassy of USA, Public Diplomacy Section, in Zimbabwe.	IBD	January 2022	The participants intend to jointly establish a public information and activity center known as the NUST American Corner.
2	Contract between NUST & Fawcett Security Operations (PVT) LTD	Campus Security Services	February 2022	Guard Service Contract.
3	MOA between NUST & ZIMRA	Faculty of Commerce	February 2022	This MOA sets out the principles of which the parties are collaborating with each other in the provision and development of the Honours Degree and Masters Programmes.
4	Contract between NUST & First Pack	PMU	February 2022	Contract for Procurement of CISCO Wireless Controller
5	Construction Agreement between NUST & Belmont Electrical Pvt Ltd	PPWE	March 2022	Construction Agreement
6	MOA Between NUST & Internet Society of Zimbabwe	Faculty of Applied of Sciences, Environmental Science & Health	March 2022	This MOA is in collaboration on the research project entitled "Improving e-waste management to support green internet in resource constrained settings"
7	Confidentiality & Non-Disclosure agreement between NUST & ZIMTRADE	PVC-IBD	March 2022	Confidentiality & Non-Disclosure agreement
8	MOA between NUST & MacDonald's Bricks	COMA	April 2022	MOA of Sponsorship for the construction of perimeter wall
9	UNESCO Contract	Student Affairs	MAY 2022	Contract for services
10	Construction Agreement between NUST & Bulawayo Polytechnic	PPWE	MAY 2022	Construction Agreement



No.	Contract Name	Department	Date Signed	Purpose
11	Donation Agreement between NUST & Allergy Foundation of South Africa	Faculty of Medicine	June 2022	Donation Agreement
12	Contract Agreement between NUST & Zimbabwe Insurance Brokers Ltd	PMU	March 2022	Contract Agreement
13	MOU NUST & Chemplex	IBD	June 2022	MOU Concerning a mutual collaboration on research & Development, Marketing, Sharing of Scientific Information & Development of Prototypes.
14	Confidentiality & Non-Disclosure Agreement between NUST & ZESA.	IBD	July 2022	Confidentiality & Non-Disclosure Agreement
15	Collaborative Research Agreement (CRA) International Livestock Research Institute (ILRI) & NUST.	Faculty of Commerce, IDS	August 2022	Collaborative Research Agreement
16	Addendum to MOA of Lease Agreement between NUST & ZIMDEF	Registrar	August 2022	Addendum to MOA of Lease Agreement
17	Lease Agreement between NUST & Econet	Bursar	August 2022	Lease Agreement
18	MOA between NUST & NN Joinery	PPWE	September 2022	Supplying and fixing aluminum fittings to the NUST Project.
19	Memorandum of Cooperation between NUST & Russian African Network University	VC	September 2022	The purpose of this Memorandum is to promote educational, scientific and technical cooperation, academic, social, humanitarian, cultural interaction and development, implementation of educational programs and projects, scientific research, scientific and technical work and projects between the Parties, that are of mutual interest of the Parties and to promote the mutual understanding of the Parties.





No.	Contract Name	Department	Date Signed	Purpose
20	MOA between NUST & Kenn Venn Steel & Aluminium Fabricators (Pvt) Ltd	PPWE	October 2022	Supplying and fixing aluminum fittings including glazing to the NUST Project.
21	MOU between NUST & Engineers Without Border	Faculty of Engineering, Industrial & Manufacturing Engineering	October 2022	The MOU defines the collaboration between the parties in support of the UN Sustainable Development Goals (SDGs).
22	Medical Fund Administration Agreement between NUST and Cimas	Student Affairs	October 2022	Medical Fund Administration Agreement
23	Service Level Agreement between NUST and Maisha	Student Affairs	August 2022	Service Level Agreement
24	Service Level Agreement between Transmedia Corporation (Pvt) Ltd and NUST	Journalism and Media Studies	October 2022	Service Level Agreement
25	MOA (Purchase & Supply) NUST & Thuxilia Investment	IBD	November 2022	MOA for Purchase & Supply
26	MOA NUST & Mpilo Central Hospital	Faculty of Medicine	December 2022	In regard to the NUST Medical School
27	MOA between NUST & Dr Ignatius Mabasa	Faculty of Communication and Information Science, LIS	December 2022	This MOA sets out the principles on which the parties are prepared to collaborate with each other in the translation of His Excellency, President Dr E.D. Mnangagwa's biography book into the Shona Language.
28	MOA between NUST & Mr Isaac Mumpande	Faculty of Communication and Information Science, LIS	December 2022	This MOA sets out the principles on which the parties are prepared to collaborate with each other in the translation of His Excellency, President Dr E.D. Mnangagwa's biography book into the Tonga Language.
29	MOA between NUST & Mr Pathisa Nyathi	Faculty of Communication and Information Science, LIS	December 2022	This MOA sets out the principles on which the parties are prepared to collaborate with each other in the translation of His Excellency, P resident Dr E.D. Mnangagwa's biography book into the Ndebele Language.

No.	Contract Name	Department	Date Signed	Purpose
30	MOA between NUST & Professor Ruby Magosvongwe	Faculty of Communication and Information Science, LIS	December 2022	This MOA sets out the principles on which the parties are prepared to collaborate with each other in the Editing and Proof-reading of His Excellency, President Dr E.D. Mnangagwa's biography book, which has been translated into the Shona Language.
31	MOA between NUST & Ms Letween Syadiobhe	Faculty of Communication and Information Science, LIS	December 2022	This MOA sets out the principles on which the parties are prepared to collaborate with each other in the Editing and Proof-reading of His Excellency, President Dr E.D. Mnangagwa's biography book, which has been translated into the Tonga Language.
32	MOA between NUST & Mr Thompson Ndlovu	Faculty of Communication and Information Science, LIS	December 2022	This MOA sets out the principles on which the parties are prepared to collaborate with each other in the Editing and Proof-reading of His Excellency, President Dr E.D. Mnangagwa's biography book, which has been translated into the Ndebele Language.
33	MOA between NUST & Lupane Local Board	Faculty of Engineering, Fibre Polymer Materials Engineering	December 2022	A lease agreement with option to purchase.
34	Contract Agreement between NUST & Active-Lift Investments Pvt Ltd t/a Ultimate Book Binders & Foil Print (Pvt)Ltd	PMU	December 2022	This contract is for the Procurement of Branded Materials.
35	Contract Agreement between NUST & Legatum International Pvt Ltd t/a Bradbury Advertising	PMU	December 2022	This contract is for the Procurement of Branded Materials.
36	Grant Agreement between NUST & Research Council of Zimbabwe	RIO D	December 2022	Grant Agreement



# AWARDS, RECOGNITION AND MAJOR ACHIEVEMENTS

- February 2022: NUST Annual Golf Tournament successfully hosted at ZRP Golf Club, Harare.
- February 2022: NUST and ZIMRA sign an MOA to affiliate ZIMRA Training Centre with NUST.
- March 2022: NUST hosts Zimbabwe Universities Sports Association (cluster 1) Games.
- April 2022: His Excellency, President Cde Dr Emmerson Dambudzo Mnangagwa visits the NUST stand at the ZITF.
- April 2022: Vice-President, Gen (Rtd) Dr Constantino Guveya Dominic Nyikadzino Chiwenga tours the NUST Stand during the ZITF.
- April 2022: NUST and Macdonald Bricks sign an MOA on the construction of 8.4km NUST perimeter wall.
- May 2022: NUST successfully host national World Press Freedom Day celebrations
- Faculty of Medical has been granted Medical School status after meeting international standards.
- July 2022: NUST scoops two prizes at the Zimbabwe National Chamber of Commerce Annual Business Awards: Tertiary Institution of the Year Award, and 1st Runner Up Innovation Award.
- September 2022: NUST signs an MOU with the consortium of Russian-African Network University paving way for partnership with Russian universities on research, teaching, learning and exchange programmes.
- October 2022: NUST Campus Radio goes on air.
- October 2022: Prof Lindiwe Majele Sibanda appointed NUST Council Chairperson, as Eng Alvord Mabena retires.
- November 2022: 28th Graduation Ceremony successfully hosted.
- November 2022: His Excellency and Chancellor of All State Universities, President Cde Dr Emmerson Dambudzo Mnangagwa lays a foundation stone at the Technovation Centre.

## NUST RANKING IN 2022

According to the Webometrics Ranking of World Universities, NUST was ranked third best University in Zimbabwe. Webometrics uses website presence and visibility as indicators of global performance of a university. These indicators take into account the teaching commitment, research, perceived international prestige, links with the community, including industrial and economic sectors of the university.

Table: NUST ranking (Source: Webometrics Ranking of World Universities)

ranking	World Rank <sup>~</sup>	University	Det.	Impact Rank*	Openness Rank*	Excellence Rank*
1	2149	<a href="#">University of Zimbabwe</a>		4797	2317	2072
2	3883	<a href="#">Midlands State University</a>		5353	3203	4736
3	4658	<a href="#">National University of Science &amp; Technology</a>		10230	3121	4958
4	4773	<a href="#">Chinhoyi University of Technology</a>		12198	3958	4536
5	4958	<a href="#">Bindura University of Science Education</a>		11967	3732	5020
6	5938	<a href="#">Great Zimbabwe University</a>		12882	4444	5873
7	6589	<a href="#">Africa University</a>		7345	7345	6283
8	6836	<a href="#">Harare Institute Technology</a>		14736	6274	5873
9	7559	<a href="#">Lucerne State University</a>		14793	5692	6283
10	9831	<a href="#">Zimbabwe Open University</a>		12948	7420	6488
11	9919	<a href="#">Women's University in Africa</a>		16129	7420	6132
12	15957	<a href="#">Solusi University</a>		14607	7420	7190
13	17725	<a href="#">Catholic University of Zimbabwe</a>		16717	7420	7190
14	19704	<a href="#">Zimbabwe Ezekiel Guti University</a>		18948	7420	7190
15	20181	<a href="#">Reformed Church University</a>		19522	7420	7190
16	21340	<a href="#">Arnup Jesuit University</a>		20810	7420	7190
17	21659	<a href="#">Gwanda State University</a>		21181	7420	7190
18	23133	<a href="#">Manicaland State University of Applied Sciences</a>		22795	7420	7190
19	24170	<a href="#">Marondera University of Agricultural Sciences and Technology MUAST</a>		23897	7420	7190

# MEDIA COVERAGE OF NUST

DURING the year under review, the Department of Communication and Marketing enhanced the visibility of NUST in the mainstream and social media through sharing press releases, inviting journalists to cover University activities and generating content for the website and institutional social media platforms. Below are snippets of some stories about NUST published in the mainstream media, our website [www.nust.ac.zw](http://www.nust.ac.zw), NUST Facebook @NUST.ZIM, Twitter @nustzim and YouTube. The full stories can be accessed from the website section on News & Announcements <https://www.nust.ac.zw/index.php/notices>

**NUST ZIM** @nustzim · Jan 12, 2022

Banc ABC Shingirai Vutoyi (Branch Manager) and McIntosh Ngwenya (Branch Banking Manager) pose for pictures with acting Vice-Chancellor, Professor Yoki Naik and Director for Communication and Marketing, Mr Thabani Mpofu. Banc ABC paid a courtesy call to NUST yesterday. #BancABC



BancABC Zimbabwe

23

## NUST campus radio goes on air

16 November 2022



# Hits: 7403

## NUST centre to stimulate economic development

16 November 2022



# Hits: 7326

## NUST FC upset Njube Spurs

28 November 2022



# Hits: 2059

## NUST sets up factories

08 September 2022



# Hits: 7516

**NUST ZIM** @nustzim · Feb 11, 2022

Professor Clever Nyathi, the inaugural Pro-Vice Chancellor of NUST (1994 -2000), yesterday paid a courtesy call to the Acting Vice-Chancellor, Professor Yogi Naik.



23





NUST ZIM @nustzim · Feb 10, 2022  
 NUST 2022 Golf Tournament (Harare Edition)



2 8

### NUST granted Medical School Status

27 October 2022



# Hits: 3171

### Dr Ncube research popularises inkunzane

21 November 2022



# Hits: 8644

NUST ZIM @nustzim · Feb 11, 2022  
 Professor Clever Nyathi, the inaugural Pro-Vice Chancellor of NUST (1994 -2000), yesterday paid a courtesy call to the Acting Vice-Chancellor, Professor Yogi Naik.



2 3 22

### International Conference On Business Management Science

11 July 2022



# Hits: 2279

### NUST student creates cellphone App to revolutionise farming

23 May 2022



# Hits: 6292

## NUST innovator seeks to end plastics environment menace

17 May 2022



# Hits: 10067

## NUST students coming up with innovative technological solutions

28 April 2022

**PaMarket**  
Buy & Sell in the comfort of your home

**ONLINE PEOPLE'S  
MARKET PLACE**

REGISTER AND START SELLING TODAY!

# Hits: 7345

## VC OFFICIALLY OPENS ZUSA GAMES

10 March 2022



# Hits: 5864

## NUST successful hosts of national World Press Freedom Day Celebrations

04 May 2022



# Hits: 7280



NUST ZIM @nustzim · Feb 28, 2022

NUST and ZIMRA today signed a Memorandum of Agreement (MOA) to affiliate ZIMRA Training Centre with NUST. Acting Commissioner General, Ms Regina Chinamasa and Acting Vice-Chancellor, Prof Yogi Naik signed the MOA.

@Zimra\_11



3 replies 11 likes



NUST ZIM @nustzim · Mar 2, 2022

Officials from UNESCO, Ministry of Higher & Tertiary Education, Innovation, Science and Technology Development, Ministry of Health and Child Care, Ministry of Local Government and Public Works, and National Family Planning Council visited the University to assess the NUST Clinic



1 reply 2 replies 10 likes





**NUST ZIM** @nustzim · Mar 2, 2022

The Namibian Deputy Director for Programmes and Quality Assurance, in the Ministry of Education, Arts and Culture, Mr PV. Musove, and the Centre Manager for Rundu Vocational Training Centre visited NUST to explore possible areas of collaboration.

1 9

**NUST ZIM** @nustzim · Mar 10, 2022

ZUSA games Day 2 : Chess

5 25

**NUST ZIM** @nustzim · Mar 9, 2022

Today, the Vice-Chancellor Prof M.E Dlodlo officially opened the 2022 ZUSA games (Cluster 1) at NUST sports field. Click the link below to watch the full video. [facebook.com/NUST.ZIM/video...](https://facebook.com/NUST.ZIM/video...)

**NUST ZIM** @nustzim · Apr 7, 2022

Telone Managing Director, Chipo Mutasa and her team today paid a courtesy call to the Vice-Chancellor, Prof Mqhele E. Dlodlo and his Principal Officers. #RENEWINGRELATIONSHIPS

1 2 7

**NUST ZIM** @nustzim · Apr 27, 2022

Vice-Chancellor, Prof Dlodlo had a brief meeting with @CBZHoldings delegation and other senior managers

1 2 11

**NUST ZIM** @nustzim · Mar 8, 2022

Happy Women's Day.  
#BreakTheBias  
#BreakingTheBias

*Happy International Women's Day to you all and your families. May all the good that you bring to the world by being in it bear fruit. May that fruit bring endless joy to all your hearts as women of character, intellect and unequalled strength. On behalf of the Council, the Senate, staff, students and myself I wish you a wonderful day to reflect as well as celebrate your being.*

**Prof M.E. Dlodlo**  
Vice-Chancellor

[www.nust.ac.zw](http://www.nust.ac.zw) | [info@nust.ac.zw](mailto:info@nust.ac.zw) | 292-282812

4 5

**NUST ZIM** @nustzim · Mar 25, 2022

All is set @ZRP GOLF CLUB(Harare),1st tee off has began. #NUST2022GolfTournament

2 6

**NUST ZIM** @nustzim · Apr 30, 2022

The President and Chancellor of NUST, His Excellency, Dr Emmerson Mnangagwa yesterday visited the NUST Stand. He commended the University for affording students an opportunity to exhibit their innovations and challenged them to turn the innovations into start-up companies.

1 5 7



**NUST ZIM** @nustzim · May 4, 2022  
World Press Freedom day celebrations at NUST.

5 10

**NUST ZIM** @nustzim · Jun 11, 2022  
NUST scooped two prizes at the Zimbabwe National Chamber of Commerce Annual Business Awards:  
1. Tertiary Institution of the Year Award sponsored by ZIMDEF  
2. Innovation Award sponsored by ZNCC  
#RETHINKREDESIGNEDUCATIONS.0

4 6 35

**NUST ZIM** @nustzim · Jul 8, 2022  
NUST at Beitbridge Business Expo 2022. Day 1.

1 2 27

**NUST ZIM** @nustzim · Aug 23, 2022  
NUST is currently hosting the 9th International Conference on Communication and Information Science under the theme: Knowledge and Information Communication in the COVID-19 Era.

Join with Google Meet using the following link:  
[meet.google.com/fzy-okgf-cad](https://meet.google.com/fzy-okgf-cad)

1 4 14

**NUST ZIM** @nustzim · Sep 5, 2022  
Graduate School of business (GSB) on Friday hosted a fundraising dinner at the ZITF under the theme: Bridging the gap between Academia and industry through smart partnerships.

1 3 19

**NUST ZIM** @nustzim · Nov 17, 2022  
International workshop on "Leveraging Innovations for Infrastructure Development and Sustainable Industrialisation" is running from 17- 18 November 2022. Join the meeting virtually.  
Zoom Meeting link : [us06web.zoom.us/j/83426302058?...](https://us06web.zoom.us/j/83426302058?...)  
ID: 834 2630 2058  
Passcode: 224769

2 6

**NUST ZIM** @nustzim · Nov 23, 2022  
CURRENTLY HAPPENING !!!  
ZIE Graduate Engineers' Career Indaba  
Physical venue: NUST Ceremonial hall Foyer  
Virtual Participants: Visit the previous post for information on how to log onto the meeting.

6 19







**NATIONAL UNIVERSITY OF  
SCIENCE AND TECHNOLOGY**