



MULUNGUSHI UNIVERSITY
PURSUING THE FRONTIERS OF KNOWLEDGE



2023 ANNUAL REPORT

RESEARCH, PUBLICATIONS, CONSULTANCY AND QUALITY
ASSURANCE



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ASSURANCE**

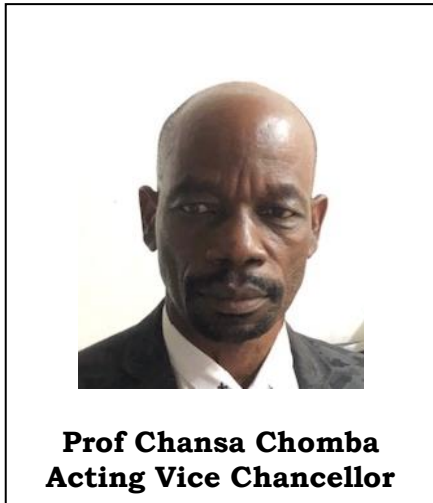
2023 ANNUAL REPORT

Theme:

**“Advancing Excellence in Research, Publications, Consultancy, and
Quality Assurance”**

May 2024

FOREWORD



Welcome to the Mulungushi University Annual Report for the year 2023. In this edition, we proudly showcase our Institution's relentless pursuit of excellence in various facets, ranging from groundbreaking research endeavors to impactful consultancy services.

As a premier institution of higher learning in Zambia, Mulungushi University remains steadfast in its commitment to fostering innovation, driving impactful research, and delivering top-tier consultancy services while upholding the highest standards of quality assurance.

This document serves not only as a testament to our Institution's ongoing commitment to academic excellence but also as a beacon illuminating the path forward as we continue to advance in our mission of pursuing the frontiers of knowledge and by the knowledge dissemination, societal impact, and academic distinction.

At Mulungushi University, our vision is clear: to be a centre of excellence in higher education, research, and consultancy, driving innovation and contributing to the socio-economic development of Zambia and beyond. This vision serves as our beacon and guiding star, inspiring us to strive for greatness in all endeavours and ensuring that every action we take is aligned with our core values of integrity, professionalism, and inclusivity.

The theme of the 2023 report, "advancing excellence in research, publications, consultancy, and quality assurance," encapsulates the multifaceted approach we have adopted to achieve our goals. Through a concerted effort to foster a vibrant research culture, we have witnessed groundbreaking research outputs enriching scholarly discourse and providing tangible solutions to real-world problems.

Our commitment to scholarly publications has remained steadfast, with our members of staff and students producing a plethora of high-quality research

papers, book chapters and articles that have garnered international recognition and acclaim. These publications not only showcase the depth and breadth of expertise within our academic community but also serve as a testament to our dedication to knowledge dissemination and academic excellence.

Furthermore, Mulungushi University has continued to play an important role in providing consultancy services to various stakeholders, leveraging our expertise and resources to address a wide range of challenges facing society and the country at large. We take immense pride in the dissemination of our research findings through reputable journals and academic platforms, thereby enriching global discourse and promoting intellectual exchange. Our scholars' contributions span a wide spectrum of topics, reflecting our Institution's interdisciplinary approach and its relevance to contemporary challenges.

Our research outputs range from, advising government agencies on policy formulation to partnering with industry leaders to drive innovation; our consultancy efforts have made a tangible impact on the socio-economic landscape of Zambia, the SADC region and beyond.

Central to our pursuit of excellence is our unwavering commitment to quality assurance. We recognize that maintaining the highest standards of academic and administrative excellence is essential to upholding the trust and confidence of our stakeholders. As such, we have implemented robust quality assurance mechanisms to ensure that our operations, from teaching and learning to research and service delivery adhere to the most stringent standards of quality and integrity.

In addition to research and publications, Mulungushi University remains dedicated to providing high-quality consultancy services to various stakeholders, including government agencies, private enterprises, and non-profit organizations. Through collaborative partnerships and expert guidance, we offer tailored solutions to address complex problems, leveraging our faculty's expertise and institutional resources to drive sustainable development and foster inclusive growth.

Moreover, Mulungushi University reaffirms its commitment to upholding rigorous standards of quality assurance across all academic and administrative functions. We prioritize accountability, transparency, and continuous improvement, ensuring that our programs and services meet the highest

benchmarks of excellence and relevance. By maintaining a culture of quality assurance, we empower our students, faculty, and staff to excel in their respective roles and contribute meaningfully to society.

As we look ahead to the future, we are filled with optimism and determination. The challenges we face are significant, but so too are the opportunities that lie before us. With a steadfast commitment to excellence, a spirit of innovation, team work and a dedication to serving our community, I am confident that Mulungushi University will continue to thrive as a beacon of knowledge, enlightenment, and progress for many years to come.

In this Annual Report, we invite you to explore the myriad achievements, initiatives, and aspirations of Mulungushi University as we continue our journey towards excellence in research, publications, consultancy, and quality assurance. Together, let us celebrate our collective accomplishments and reaffirm our commitment to shaping a brighter future for generations to come.

In closing, I would like to express my heartfelt gratitude to all the members of the academic staff, students, alumni, and partners who have contributed to the success of Mulungushi University. Your dedication, passion, and hard work are the driving force behind our achievements, and I look forward to continuing this journey together as we chart a course towards a brighter and more prosperous future.

We remain committed to pursuing the frontiers of knowledge.

Prof Chansa Chomba
Acting Vice Chancellor

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ACRONYMS

HEA	Higher Education Authority
HIV	Human Immunodeficiency Virus
MU	Mulungushi University
MUMJ	Mulungushi University Multidisciplinary Journal
PI	Principal Investigator
QAP	Quality Assurance Policy
SANR	School of Agriculture and Natural Resources
SBS	School of Business Studies
SET	School of Engineering and Technology
SoE	School of Education
SoMHS	School of Medicine and Health Sciences
SoNM	School of Nursing and Midwifery
SNAS	School of Natural and Applied Sciences
SSS	School of Social Sciences
ZAQA	Zambia Qualification Authority

INTRODUCTION

Universities play a crucial role in addressing societal needs and Mulungushi University (MU) is steadfast in fulfilling this mission. Through a combination of innovative research and dynamic learning, the University aims to contribute to sustainable development and elevate living standards in Zambia, the region, and globally.

As the third-largest public university in Zambia, MU is dedicated to providing students with both theoretical knowledge and practical skills, nurturing critical thinking and autonomy. Since its establishment in 2008, the University has witnessed significant growth in the quality and quantity of publications, fostering collaboration and mentorship among academic staff.

The University's 2023 annual report on research, publications, consultancy, and quality assurance provides an overview of the university's progress and achievements in these areas throughout the year, with achievements reported per school. Additionally, the Directorate of Research and Postgraduate Studies, serving as the coordinator of research, innovation, and quality assurance matters, reports its activities and achievements, ensuring a comprehensive summary of the university's efforts in advancing knowledge and innovation.

CHAPTER ONE

DIRECTORATE OF RESEARCH AND POSTGRADUATE STUDIES



The Directorate of Research and Postgraduate Studies (DRPS) has been instrumental in coordinating research, innovation, and quality assurance matters at Mulungushi University since its establishment in 2014. In 2023, the Directorate continued to lead collaborative efforts across all eight schools, resulting in notable achievements. These achievements include coordinating university-funded research projects, sustaining the university journal with two editions of articles, and hosting the second international conference, drawing scholars from academia and industry.

Additionally, the Directorate, in partnership with schools, actively pursued additional funding through consultancies and research grants, demonstrating a commitment to enhancing the University’s financial sustainability. Furthermore, the Directorate facilitated the development, accreditation, and registration of the University’s learning programmes with relevant authorities. Throughout the year, the focus remained on advancing initiatives aimed at promoting innovation and addressing societal challenges, highlighting the University’s dedication to excellence in academia, research, and consultancy services.

Participation in both local and international university rankings underscore the university’s commitment to excellence and ongoing improvement. With the Quality Assurance Policy (QAP) approved, the University is dedicated to maintaining excellence in all aspects of its academic endeavours.

Reflecting on the achievements of 2023 fills us with optimism and determination to build upon successes and further advance the mission of providing high-quality academic programmes, research, and consultancy services through stakeholder engagement. The Directorate will continue to push boundaries, foster innovation, and make significant contributions to the community and beyond.

1.1 Mulungushi University Research Grants

For the fourth consecutive year, Mulungushi University has continued to provide support through internally sourced funds for research endeavours. During the year under review, the University awarded twelve (12) academics a total of ZMW 605,517.00 for projects to be undertaken between September 2023 and

September 2024, marking a 21% increase from the ZMW 500,000.00 awarded to ten (10) projects in 2021 (Table 1 and 3). Notably, all ten (10) research projects funded during the 2021 research grant awards have been successfully completed (Table 3).

Table 1: Mulungushi University Funded Research Projects - 2023

SN	PRINCIPAL INVESTIGATOR	RESEARCHER(S)	PROJECT TITLE	AMOUNT	STATUS
SCHOOL OF NATURAL AND APPLIED SCIENCES					
1	Dr. Francis Kayamba	Mr. Ian Mwewa Mr. Danny Banda	Design, Synthesis and Biological Evaluation of Pyrimidine Based Hybrids as a Promising Class of Antiplasmodial Agents	K50, 000	Data collection
2	Mr Hyden Simwatachela	Dr. Evans Kaimoyo Mr. Remmy Sikazwe	Invitro Erythropoiesis of Clinical Grade Reticulocytes from Umbilical Cord Stem Cells.	K55,517	Data collection
SCHOOL OF MEDICINE AND HEALTH SCIENCES					
3	Dr. Y. Uthman Ademola	Mr. John Mulemena Mr. Kingsley Kamvuma Dr. Sam Beza Phiri Dr. Samuel Bolaji Mesole	Histological and Histochemical Studies of Some Effects of Aqueous Extract of Hibiscus on The Brain, Liver, Kidney and Lungs of Cadmium Induced Toxicity in Wistar Rats.	K50,000	Data collection
4	Dr. Concepta Kwaleyela	Mrs. Jeane N. Banda Mr. Harrison Namoomba Mrs. Jamia M. Kabungo Mrs. Isabel L. Malata Mrs. Harriet M. Simaubi	Significance of Wild Mushrooms for Female Mushroom Hunters in Rural Zambia on Women's Health	K50, 000	Data collection
SCHOOL OF SOCIAL SCIENCES					
5	Mr. Nixon Chisonga	Mr. Obinna B. Onukugu Mr. Jacob. D. Sichone	The Paradox of FISP In Graduating Small-Scale Farmers to Medium and Commercial Enterprises in Choma District, Zambia.	K50,000	Data collection
6	Mr. James Mulenga	Edwin Moyo Yordanos Gebremeskel	Impact of National Health Insurance Scheme (NHIMA) On Health Seeking Behaviour Among Individuals in Central and Copperbelt Provinces of Zambia	K50,000	Instrument pretesting and awaiting ethical clearance
SCHOOL OF BUSINESS STUDIES					
7	Mr. Moulen Siame	Mrs Mary Lubinda Dr Nsama Musawa.	Perceived Factor Effective in Influencing Entrepreneurial	K50,000	Data analysis

		Dr. Clement Mwaanga	Behaviour. A Case Study of University Students in Zambia		
8	Mr. Wamulume Mushala	Edwin Moyo Dr. Clement Mwaanga	Post COVID 19 Business Development Services: SMEs Sustainability Strategies	K50,000	Data analysis
SCHOOL OF EDUCATION					
9	Mr. Givers Chilinga	Mr. Daniel Katongo Chola	Examining Perspectives of Artisanal Mining, Hazardous Risks, And Urban Poverty Alleviation Nexus: A Case Study of Ngwenya Stone Crushers in Livingstone, Zambia.	K50, 000	Data collection
10	Ms. Ireen Moonga	Dr. Jive Lubungu Dr. Audrey Muyuni	The Impact of Climate Change on Educational Policies in Zambia: An Analysis of Current Challenges and Future Strategies.	K50, 000	Report writing
SCHOOL OF ENGINEERING AND TECHNOLOGY					
11	Mr. Goodson Masheka	Mr. Brian Halubanza Mr. Kalolo Mukanga J. R Mr. Ngalande	Design and Production of Low-Cost Concrete Pavers for Mulungushi University Roads.	K50,000	Data collection
12	Dr. Sinyinda Muwanei	Dr. Friday Mufuzi Mr. Brian Halubanza	Developing an Artificial Intelligence Model for Accurate Identification of Animal Species Using kins	K50,000	In progress

Table 2: Mulungushi University Funded Research Projects - 2022

SN	PRINCIPAL INVESTIGATOR	RESEARCHER(S)	TITLE OF PROJECT	AMOUNT	STATUS
SCHOOL OF NATURAL AND APPLIED SCIENCES					
1	Dr. Manyika Davy	Mr. Peter Banda Dr. Agripa Hamweendo	Automatic Vehicle Number Plate Recognition System -A prototype	K50,000	Project completed and paper published
SCHOOL OF MEDICINE AND HEALTH SCIENCES					
2	Dr. Y. Uthman Ademola	Mr. John Mulemena Mr. Kingsley Kamvuma Dr. Sam Beza Phiri Dr. Michelo H. Miyoba	Evaluation of the role of an aqueous extract of guava leaves (<i>psidium guajava</i>) on the Frontal cortex, Pancreas and Liver of diabetes type 1 in Wistar rats	K49,550	Project completed and paper published
3	Mr. Warren Chanda	Mr. John A Mulemena Mr. Kingsley Kamvuma	Detection of the presence of CRE and ESBL-producing organisms in routine	K50,000	In progress

		Mr. Christopher N Phiri	specimens from in- and out-patients at LCH		
SCHOOL OF SOCIAL SCIENCES					
4	Mr. Bwalya Bupe Bwalya	1. Prof. Sepiso Masenga	Correlates and complications of uncontrolled type II diabetes Mellitus (T2DM). CoCUT. Study.	K88,985	In progress
		2. Dr Katema Mwamba			
		3. Memory Ngosa			
		4. Ms. Sendy Banda			
5	Mr. Yordanos Gebremeskel	Mr. Idan Lichilo	Household energy needs, preferences, and utilization pattern in Zambia	K50,000	In progress
		Mr. James Mulenga			
6	Dr. Charity Meki Kombe	Mrs Chrsitabel N. Reinke	Comparative study of factors associated with Menstrual Poverty among rural and urban Upper Primary Schools During the COVID-19 era in Kabwe District of Central Province of Zambia	K50,000	Project completed and paper under review
		Mr. Bwalya Bupe Bwalya			
7	Mr Mwansa Acientos	Dr Daniel Mauzu	Effect of corruption, utility services, regulation and business performance (focusing on exports, labour productivity, employment growth, investment in assets, access to credit) among Zambian firms	K50,000	In progress
SCHOOL OF BUSINESS STUDIES					
8	Dr. Njebele Musawa	Dr. Clement Mwaanga	Assessing the preliminary effect of Shifting from Actual Loan loss Provision to Expected Credit Loss Model on earnings smoothing by financial institutions in Zambia.	K50,000	Project completed and paper published
		Mr. Walume Mushala			
9	Dr. Clement Mwaanga	Dr. Moulén Siame	University-related factors influencing technopreneurial intentions of stem students. A comparative study of public and private universities	K50,000	Project completed and paper published
		Mr. Kelly Chungu			
SCHOOL OF EDUCATION					
10	Mrs. Mary Mbewe	Dr Mwaka Siluonde	Tradition and Social Change: A study of current chisungu female initiation teachings in selected communities in Lusaka, Kabwe and Chipata District	K55,335	Project completed and paper published
		Mrs Victoria Phiri			

SCHOOL OF AGRICULTURE AND NATURAL RESOURCES					
11	Mr. Nchimunya Bbebe	Dr Arunachalam Kalirajan	Towards Realizing the Potential of Marama Beans (Tylosema esculentum) as a Food and Income Security Crop for Drought Prone Areas of Zambia	K49,223	In progress
SCHOOL OF ENGINEERING AND TECHNOLOGY					
12	Mr. Luckson Simukonda	Mr. Brian Halubanza Dr. Malunga Mwape	Smart irrigation systems for small-scale farmers using low-cost hardware: Case study of Kabwe and Kapiri districts of Zambia	K50,000	Completed and manuscript to be submitted to journal.

Table 3: Mulungushi University Funded Research Projects - 2021

SN	PRINCIPAL INVESTIGATOR	RESEARCHERS	TITLE OF PROJECT	STATUS
SCHOOL OF SCIENCE ENGINEERING AND TECHNOLOGY				
1.	Mr. George Mweshi	Prof. Douglas Kunda 2. Dr. Macmillan Simfukwe	A Nature and Biologically Inspired Computational Optimization Toolkit for Mulungushi University	Project completed and paper published
2.	Mr. Brian Halubanza	Prof. Douglas Kunda Dr. Jackson Phiri	A framework for an early warning system for the management of the Spread of Locust invasion based on Artificial Intelligence Technologies.	Project completed and paper published
3.	Mr. Edwin Moyo	Mr. Mushala Wamulume Mr Chilayi Mayondi	An investigation into the perceived socio economic and cultural factors influencing teenage pregnancy in Zambia.	Project completed and paper in progress
SCHOOL OF MEDICINE AND HEALTH SCIENCES				
4.	Dr. Benson M. Hamooya	Dr. Katongo H. Mutengo Mr. Wilson Zimba Prof. Sepiso Masenga	Cardiovascular disease, predictors and anthropometric diagnostic values Among metabolic syndrome HIV positive patients in Sybsaharan Africa (CAP MetS- study).	Project completed
5.	Dr. Uthman Ademola Y.	Mr. J. Amos Mulemena Mr. Kingsley Kamvuma Dr. Sam Beza	Histological and Histochemical changes in the Pancreas and Brain of Diabetic Wistar Rats Treated with Aqueous Extract of Cactus	Project completed and two articles published
SCHOOL OF SOCIAL SCIENCES				
6.	Dr. Mulenga C. Mulenga	Mr. Yordanos Gebremeskel Dr. Musawa N. Njebele Mr. Innocent Shatamuka	Determinants of Financial Inclusion and Gender Gap in Zambia	Project completed and manuscript submitted to MUMJ for review
7.	Dr. Masole Siachisa	Mrs. R. B Shula Ms. S Mulima Mr. S. Mushoke Mr. P. R. Ngulube	Examining the effectiveness of Ward Development Committees in implementing the Decentralisation Policy in Chibombo District (2015-2020).	Project completed

SCHOOL OF BUSINESS STUDIES				
8.	Mr. Drayton Muchochoma	Mr. Chera E. Deressa Mr. Mushala Wamulume Dr. Dr. Musawa N. Njebele	An Evaluation of CAMEL model on Zambian commercial banks' performance.	Project completed
9.	Ms. Mary Lubinda	Dr. Gift Kaira	The Role of Public Universities in Empowering Communities with Entrepreneurship Skills	Project completed; article submitted to MUMJ
SCHOOL OF EDUCATION				
10.	Dr. Charity Meki Kombe	Mrs. Dingase Ngulube Mrs. Beatrice Mwansa	Women and politics in Zambia: Motivation, challenges, and resilience	Project completed and paper published

1.2 Research Publications, Book Chapters and Consultancies

Overall, there was an increase in the number of publications and consultancies undertaken in the year under review. Specifically, there was a rise in the publication of journal articles in peer-reviewed scientific journals, increasing from 84 articles in 2022 to 106 articles in 2023. Although no books were published during this period, three book chapters were released. Additionally, the number of consultancies conducted by academicians increased from 12 in 2022 to 21 in 2023 (see Table 4).

Table 4: List of Publications Produced by Lecturers Per School

SN	School	2022	2023	2022	2023	2022	2023	2022	2023
		No. Research Articles		No of Books		No. Book Chapters		No. of Consultancies	
1	School of Agriculture and Natural Resources	12	1	0	0	0	0	1	2
2	School of Business Studies	4	5	0	0	0	0	3	5
3	School of Education	7	17	0	0	2	0	1	1
4	School of Medicine and Health Sciences	27	28	0	0	0	0	0	2
5	School of Natural and Applied Sciences	13	22	0	0	1	2	1	2
6	School of Engineering and Technology	7	2	0	0	0	0	1	2
7	School of Social Sciences	14	23	0	0	1	1	6	5
8	School of Nursing and Midwifery	0	8	0	0	0	0		2
Total		84	106	0	0	4	3	12	21

Table 5: Research Grants and Proposals Submitted by DRPS and Status

SN	Title	Type	Funder	Outcome	Amount
1.	Sector performance of the Joint water and sanitation and environment sector (JWSER)	Research Consultancy	GIZ	No Feedback	\$ 32 000.00
2.	Use of ICT in Education Computer Science Department in collaboration with DRPS	Research Grant	Spider	Second Stage of Approval	SEK 596 943.68
3.	Survive to Thrive Project	Research Consultancy	World Vision	Not Funded	ZMW 562 000.00
4.	Environmental and social safeguards audit for Strengthening climate resilience in the Kafue sub-basin (SCRiKA) project	Research Consultancy	Ministry of Green Economy and Environment with support from the African Development Bank.	No Feedback	\$37 959.90
5.	Gender analysis of the business environment in Zambia	Research Consultancy	USAID	Not awarded	ZMW 1 287 700.00
6.	Reform Agenda for Public Universities in Zambia	National Assignment Research /Consultancy	Ministry of Education	In progress	-
7.	Indigenous Knowledge System (IKS)-A tool kit for Climate Change Early Warning and Adaptation in Zambia: (IKS-CCEWAZ)	Research	National Science and Technology Council (NSTC)	Not awarded	ZMW 800,000
8.	Sustainable food security through climate-friendly organic farming and improved environmental management in the central province of Zambia for Environment Africa Zambia, Kabwe	Consultancy	Environment Africa	Not awarded	ZMW 146,000
9.	Knowledge and innovation for achieving gender equality and social inclusion at school	Research grant	International Development Research Centre	Not Awarded	CA\$ 300,000

1.3 Second MU International Conference and Staff's Participation in Conferences

The university successfully hosted its second international conference from 16th to 17th November 2023 at its main campus in Kabwe. With the theme 'Linkage between industry and academia for sustainable development', the Conference aimed to foster collaboration to address national and global challenges. The event was graced by the Minister of Education, Hon. Douglas M. Syakalima, MP.

The University received a total of 67 abstracts, out of which 44 papers were approved for presentation, leading to 41 presentations in-person and online. The conference attracted 74 delegates, including four keynote speakers representing

23 learning institutions and industry firms. Two international presenters from the National Business and Technical Examinations Board (NABTEB) in Nigeria also participated, further enhancing the event's diversity and scope.

The editorial board overseeing the Mulungushi University Multidisciplinary Journal evaluated papers presented during the conference for publication in the MUMJ special issue. Twelve articles were selected for publication, showcasing the conference's scholarly contributions. Sponsorship in cash for the event was provided by organizations including Atlas Mara Bank, Zambia Industrial Commercial Bank, and Professional Insurance. In-kind sponsorship came from Tridev Enterprises Limited, Diamond TV, and KNC Radio. Overall, the conference facilitated meaningful discussions, knowledge sharing, and networking, aligning with the University's commitment to academic excellence and societal development.

Over 20 academic staff presented papers at the 2nd Mulungushi University International Conference, with some of the papers published in the special issue of the MUMJ. In addition, several academic staff participated in both local and international conferences across various disciplines, as reported under each school.

1.4 Mulungushi University Multidisciplinary Journal

As the University continues its journey towards becoming a leader in research and innovation, it maintained its commitment to the university journal (MUMJ) which was established in 2020. Over the past four years, MUMJ has successfully released eight editions. In the year under review, two publications were made, with one being a special issue that published papers presented at the second MU International Conference. These publications are accessible at <https://research.mu.ac.zm/research/index.php/mu>. The MUMJ has not only excelled in publishing high-quality research articles but has also served as a vital platform for local and international academicians, students, and practitioners to disseminate research findings to a wider audience through online platforms.

It is noteworthy that after the MUMJ received its International Standard Serial Number (ISSN): 2958-3926 from the International Centre for the Registration of Serial Publications (CIEPS – ISSN International Centre) in 2022, it has taken a further step to undergo the indexing process with Google Scholar to enhance its visibility. The process is anticipated to be completed within this year, further solidifying the journal's presence and accessibility within the academic community.

To enhance the journal's visibility, the Directorate will ensure the continuous inclusion of MUMJ announcements not only on the university website but also on other advertising platforms. This strategic approach aims to establish the

journal as a crucial avenue for knowledge dissemination within academic circles and among policymakers.

1.5 The University's Participation in University Rankings

The Directorate submitted data to the Times Higher Education (THE) Ranking for the period spanning January 1st to November 30th, 2022, focusing on the university's alignment with the 17 Sustainable Development Goals. In the first quarter of 2023, the university received its ranking feedback, achieving a rank of 1001+ among institutions above 1000. Additionally, the university participated in the Higher Education Authority (HEA) 2023 census, reaffirming its commitment to enhancing the quality of education.

1.6 Quality Assurance Activities

The Quality Assurance Office (QAO), situated within the Directorate of Research and Postgraduate Studies, plays a vital role in overseeing the accreditation and review processes for university programmes. This office ensures that all university programmes meet set standards and effectively meet the needs of local and international markets. With a strong emphasis on preparing graduates for the workforce, the QAO conducts evaluations to uphold Mulungushi University's commitment to delivering top-notch education.

a) *Quality Assurance Policy*

The university's quality assurance policy was approved by the University Council, and its implementation is scheduled to commence in 2024. A series of activities are planned to ensure the effective implementation of the policy.

b) *Development, Accreditation and Registration of Learning Programmes*

In 2023, the university successfully developed, submitted, reviewed, and re-submitted learning programmes to HEA for accreditation and registration with the Zambia Qualifications Authority (ZAQA). The table below provides an overview of the accreditation and registration status of MU learning programmes with HEA and ZAQA.

Table 6: Status of Learning programmes Developed, Accredited and Registered

SN	PROGRAMMES	NUMBER
1.	Undergoing accreditation	23
2.	Accredited with HEA	103
3.	Submitted to HEA	126
4.	Conditionally registered pending resubmission	32
5.	Registered with ZAQA (full and conditional)	37
6.	Rejected by HEA	4
7.	New learning programmes submitted for HEA accreditation	13

c) Database for Accredited and Registered Programmes

The Directorate, in collaboration with the ICT department, has made significant progress in developing a database for the learning programmes accredited by HEA and registered with ZAQA. The operationalization of this database is anticipated in 2024.

CHAPTER TWO

SCHOOL OF AGRICULTURE AND NATURAL RESOURCE



Dr. Mitulo Silengo
Acting Dean - SANR

The School of Agriculture and Natural Resources (SANR) is a student and industry responsive, production-oriented school which is based on applied sciences. It also provides a caring environment for the students and ensures that they are equipped with knowledge, skills and the right attitudes necessary for a competent cadre of graduates that are able to respond to the industry's needs.

Moreover, access to learning continues to be promoted in order to advance social transformation and redress. This is being done in accordance with the principle of freedom of inquiry and research that leads to advanced knowledge creation through collaboration. Specifically, the school continues and will continue to engage in research related to animal, plant, soil and climate sciences, and agricultural engineering among others. As such, the school shall continue to focus on ensuring that the environment is student centered and responsive to the national development agenda.

Research Groups

The School of Agriculture and Social Sciences has a total of six (6) research groups spread across three departments namely:

- i. Agricultural Bio-Systems Technology Research Group Crop Production Systems
- ii. Agribusiness
- iii. Livestock Production System
- iv. Natural and Environmental Systems
- v. Hydrology and Earth Science

Publications

- i. E.C. Musaba¹, J. T. Mwale, I. Lichilo, E.M. Syampaku, and M. M. Malunga (2023). Analysis of factors influencing the intensity of adoption of modern box hive technology by smallholder farmers in Central Zambia. International Journal of Research Studies in Agricultural Sciences (IJRSAS) (June 2023)

Books

None

Book Chapters

None

Conference Papers/Presentations

None

Research

S/N	Topic	Research theme	Comment	Status
1	Determining the agronomic requirements of Jew's allow (<i>Corchorus olitorius</i>).	Underutilised indigenous plant species for food and health	One master's student and two undergraduate students working on topic	On-going
2	Determining the agronomy of <i>Ceratotheca sesamoides</i>	Underutilised indigenous plant species for food and health	One master's student working on topic	On-going
3	Mitigating effects of heat stress on coffee flowering and yield	Climate Resilience	Undergraduate research	Completed
4	Exploring the efficacy of marigold (<i>Tagetes erecta</i> L.) on key cowpea insect pests and diseases in Choma, Southern Province	Food systems resilience through agroecology and biodiversity	One master's student working on topic	On-going
	Effective organic control of aphids in tomato (using neem oil, neem water and olive oil plus liquid soap).	Food systems resilience through agroecology and biodiversity	Undergraduate research	Completed
5	Occurrence of fumonisins in maize stored in three (3) different storage facilities (mud plastered, ordinary bags and plastic wrapped bags) across three agro-ecological zones of Zambia	Food safety	Three undergraduate students working on topic	On-going
6	Pest invasion risk analysis using Horizon Scanning	Pest Management	CABI Stakeholders	Completed
7	Evaluation of lowland aromatic rice (<i>Oryza sativa</i>) genotypes for grain yield, yield	Climate Resilience	One master's student working on topic	On-going

	components and grain quality			
8	Analysis of the malting qualities of pre-released and released varieties of sorghum (<i>Sorghum bicolor</i>) in Zambia for industrial food production	Food quality	One master's student working on topic	On-going
9	Agromorphological diversity among cowpea accessions conserved at the national plant genetic resources center.	Food systems resilience through agroecology and biodiversity	One master's student working on topic	On-going
10	Evaluation of selected orange fleshed sweet potato (<i>Ipomoea batatas</i>) varieties for water stress tolerance in Zambia.	Climate Resilience	One master's student working on topic	On-going
11	Evaluation of <i>Glomus iranicum</i> var. <i>tenuihypharum</i> var. (Resid HC) for use in maize production in Zambia	Food systems resilience through agroecology and biodiversity	One master's student working on topic	On-going
12	Phenotyping for agromorphological traits among common bean landraces in Zambia	Climate Resilience	One master's student working on topic	On-going

Consultancy

1. In October 2023 Dr Chansa Chomba facilitated the compilation of the SADC Natural Resources Hippo Range States Strategy for the period 2024 - 2029
2. In October/November 2023, Dr. Adrian Phiri and Dr. Mitulo Silengo provided research support services during the execution of the Second-Generation Country Self-Assessment Review for the African Peer Review Mechanism Research Project Consultations under for the thematic area Resiliency to Shocks and Disasters for Zambia

Partnerships and Linkages

1. Häme University of Applied Sciences (Finland)
2. Karelia University of Applied Sciences (Finland)
3. International Center for Living Aquatic Resources Management ((ICLARM), also known as World Fish
4. GIZ
5. Disaster Management and Mitigation Unit (DMMU)
6. Water Resources Management Authority (WARMA)

Research Grants/Funded

SASSCAL 2.0 Work Package No. 4 beekeeping product development and equipment design. SANR is to develop honey/wax-based products and patent a piece of equipment by the end of the project in 2026.

Collaborative Projects

Zambia for Agroforestry, Biodiversity and Climate (Z4ABC) coordinated by CIFOR-ICRAF in the Zambezi-Nyika-Luangwa Corridor looking at various agricultural and non-agricultural based value chains in addressing issues of climate resilience in the targeted communities.

Future Research Areas

- Underutilized indigenous plant species for food and health
- Climate resilience in food production systems
- Food systems resilience through agroecology and biodiversity
- Post-harvest food technologies

Community Engagement

Engagement in the community of practice in the beekeeping and honey production value chain in Central and Northwestern Provinces of Zambia.

CHAPTER THREE

SCHOOL OF BUSINESS STUDIES



Dr. Clement Mwaanga
Acting Dean, SBS

The School of Business Studies (SBS) was among the first academic units established following the transformation of the National College into Mulungushi University in 2008. In its current form, the school offers thirteen (13) Undergraduate Degree programmes and eight (08) Postgraduate Programmes organized under the Department of Business Studies and Department of Law, Labour and Human Resource Management respectively.

The school is the pioneer in introducing Commerce; Entrepreneurship; Labour and Employment Relations programmes; including Communication programmes in Zambia. These programmes ensure the production of versatile graduates who can perform multifarious and other specialized functions as economists, accountants, marketers and managers. Furthermore, while the research output of the faculty has remained steady in recent years, there is a need for greater effort to achieve a significant increase in outputs within the school.

Research Groups

The School of Business Studies has six (6) research groups spread between the two departments. The following research groups are in place:

- i. Business Management
- ii. Communication and Public Administration
- iii. Accounting and Finance
- iv. Socio-legal studies and justice systems
- v. Labour, FDI and organizational behavior
- vi. Human Resource Management, wellness and career development

Publications

1. Kasamba, U and Chungu, K (2023). A systematic literature review on the adoption of cryptocurrency as an investment option.” Mulungushi University Multidisciplinary Journal ISSN2958-3926. Vol 4 NO 1.
2. Chungu, K and Kasamba, U (2023) Exploratory study to investigate factors influencing online advertising and branding: Mulungushi University Multidisciplinary Journal, ISSN: 2958-3926. Vol 4 NO 1.
3. Mwaanga, C, Chungu K, Moyo, E. University-related factors influencing technological entrepreneurial intentions of STEM students. A comparative

study of private and public universities to be published in the Emerging Markets Journal

4. Chilangwa, E. I., Mwaanga, C., Siame, M. (2023). The influence of the college environment on the development of entrepreneurial intentions. African Journal of Business Management, Vol. 17 (1), pp.13- 22

5. Simfukwe, K M., (2023) Does the Plea Negotiations and Agreements Act provide adequate protection to accused persons in Zambia? Mulungushi University Multidisciplinary Journal ISSN: 2958 3926 Vol. 4 No. 1 PP.71-82

Books

None

Book Chapters

None

Conference Papers/Presentations

One

Research

None

Consultancy

1. The consultancy on the provision of paralegal training with GIZ was completed end of September 2023. (K665,000)
2. UMINO Loans impact on livelihood survey (K113, 000.00).
3. Professional diploma in programme planning, monitoring and evaluation (On going).
4. Financial modelling in Excel (K 200,000.00)
5. Business analytics and intelligence (K60,000.00).

Awards

The school received several awards for its best graduating students from a number of supporting institutions, including ACCA, Indo Zambia Bank, Zambia National Commercial Bank Plc, ZSIC, ATLASMARA AND First National Bank (FNB).

Partnerships and Linkages

The School of Business in partnership with SANR, SOE (MU)+LAB-LUT University of Finland (CEEZAM Project).

Research Grants/Funded

1. **Moulen Siame, Mwaanga Clement., Nsama Musawa**, MU funded research titled Perceived factors influencing students' entrepreneurial intention.
2. **Wamulume M, Clement Mwaanga and Moyo E.**, MU funded research titled *post-COVID-19 Business Development services for SMEs in Lusaka, Central and Copperbelt Provinces.*

Collaborative Projects

The school continues to collaborate with other institutions of higher learning among them being Evelyn Horne Collage of Applied Arts and the Zambia Institute of Mass Communication (ZAMCOM) which these institutions have since graduated some students.

Future Research Areas

None

Community Engagement

Nil

CHAPTER FOUR

SCHOOL OF EDUCATION



Dr Mwaka Siluonde
Acting Dean, SoE

Mulungushi University School of Education (SOE) was established in 2015 to focus specifically on teacher training, educational research, and other aspects related to the field of education. Through its undergraduate and postgraduate programmes, the school contributes to the development of skilled educators who have potential to contribute to the improvement of the education system in Zambia while at the same time addressing the need for more trained teachers in the face of continued teacher shortages in the country. Through its highly qualified, competent

and experienced staff, the School strives to continue graduating a cadre of students that are skilled in effective communication and who are robust enough to respond to the demands of the 21st century.

Since inception, the school has expanded and now offers competitive multidisciplinary postgraduate programmes in Education, History, Religious Studies, Linguistics, Literature, Agricultural Science and Civic Education. All this, despite the low enrolment levels the school continues to record for various reasons that include reduced absorption of graduates by the industry, lack of promotion of in-service graduates in recent times and few or no study loans available for the school. The period under review saw the school exploring other avenues of teacher training such as short courses which include online programmes like the Trainer of Trainers (ToT) general and specialized course and Professional Diploma in Human Resource Management and Budgeting in Education. This is in addition to the already existing postgraduate diploma and online professional certificate in teaching methodology for professionals who would like to teach but have no teaching qualification.

Apart from teaching, in the year under review, the School continued to participate in research, consultancy, professional development and various community and public service engagements. As observed from the activities compiled below, in the year under review, members of the School were involved in various research projects related to educational theory, pedagogy, curriculum development, and other aspects of education. Through the number of officers studying for their PhD and the many workshops, conferences and research outputs attended by members of the school, it is evident that the school remains committed to enhancement of teaching skills, staying updated on educational trends, and improving the overall quality of education. This includes, the school's involvement in outreach programmes, collaboration with local communities and

schools to address educational challenges and provide support for improvements.

Research Groups

The School of Education has a number of research groups spread across the school involved in various multidisciplinary projects whose outputs are shared below.

Publications

1. Chisenga,R; Moonga, I; Muyuni, A. 'Parental Aspirations towards the Language of Instruction in Selected Schools of Chingola Rural'. journal of the Educational Research Association of Zambia | Volume 1 | Issue No. 1 | Pp 39-58ISSN: 2958-1710. Article History: Received 19-11- 2022. Revised 10-07-2023. Published: 28.08.2023 Open Access License: CCBY. Available at <https://erazambia.org/journals/index.php/files>
2. Hamusunga, G., Meki-Kombe, C., Ali, K., & Simunchembu, B. (2023). Impact of COVID-19 on the administration of school-based assessments and learners' performance in final examinations in selected districts across Zambia. *Journal of Educational Assessment in Africa*, 15, 474.
3. Kabeta 1*, Givers Chilinga 1, Leornard Sakakombe Effects of COVID-19 pandemic on the teaching and learning process: lessons learned from selected secondary schools in Kapiri- Mposhi District, Zambia. *Mulungushi University Journal*.
4. Kaira, G, Ngulube, KC, & Machinyise, E. (2023). An Assessment of the Status of Teaching of 21st Century Skills to Students of English as a Second Language in Selected Teacher Training Institutions in Zambia. *European Modern Studies Journal*. Vol 6 No 6, February 2023.
5. Kaponda, P., Kawimbe, S., Meki-Kombe, C., & Mwange, A. (2023). Exploring critical success factors for business re-engineering processes implementation: A review of literature. *International Journal of Multidisciplinary Research and Growth Evaluation* 4(5), 647-650
6. Mbewe, M "Life and Work in Northern Rhodesia: Godfrey Wilson and Xavier Kofie" in *Zambia Journal of History* Vol 10 No 1 (2023), 79-101.<https://journals.unza.zm/index.php/zj>
7. Meki-Kombe, C., Mtonga, D. E., Mwansa, B. M., & Sakala, P. (2023). Motivations, Challenges and Resilience of Women in Politics: A Phenomenological Study of Selected MPs and Councillors in Zambia. *African Journal of Gender, Society & Development*, 12(4), 93.

8. Miyoba, J., Mpolomoka, D. L., Mushibwe, C., Muyoba, L., Meki-Kombe, C., & Gondwe, C. (2023). Examining Classroom Assessment Practices of Secondary School Teachers in Shiwang'andu District, Muchinga Province, Zambia. *Journal of Practical Studies in Education*, 4(6), 1-14.
9. Money, D; Mbewe, M; Hinfelaar, M. 'The Life and Legacies of Kenneth Kaunda in Southern Africa', *Zambia Social Science Journal* 9, 1 (2023), 1-17.
10. Mubisi, C; Kaira, G and Meki-Kombe, C (2023) Need and Feasibility of Online Examinations in Higher Institutions of Learning in the Sub-region: Lessons from the COVID-19 Pandemic. *Journal of Educational Assessment in Africa*. Vol.15
11. Mutambo, H., Kawimbe, S., Meki-Kombe, C., & Mwange, A. (2023). Understanding the Impact of Electricity Load Shedding on Small and Medium Enterprises: Exploring Theoretical Underpinnings. *European Journal of Business Management* 15(15), 80-105
12. Muyuni, A; Moonga, I; Lubungu, J and Chikampa, V (2023) Transformative Leadership Style as a Satellite to Change Economic Environment. *Journal of Multidisciplinary Research and Publications* ISSN (online):2581-6187 160
13. Muyuni, A; Moonga, I; Sakakombe, L; Tembo, J. (2022) 'Educational Leadership and Management Styles on Academic Achievement of Learners in Selected Secondary Schools of Lusaka District'.
14. Nzima, F., & Meki-Kombe, C. (2023). Evaluation of the implementation of school-based assessment: The case of science practicals in selected secondary schools in Lusaka District, Zambia. *Journal of Educational Assessment in Africa*, 15, 26.

Books

None

Book Chapters

Siluonde, M. (2023) Cultural Capital, Virtual Borderlands, and the Making of the Southern African Communities in Two Zambian Novels in John Aerni-Flessner et al. Ed. *Migration, Borders, and Borderlands: Making National Identity in Southern African Communities*. New York: Barnes and Noble. <https://www.barnesandnoble.com/w/books/1143948910>

Conference Papers/Presentations

1. Kabeta, R and Halubanza, B (2023) Transformational Leadership and Organisational Excellence: Implications for Leadership Practice in Higher Education Institutions - Review of Literature. Zambia Association of Public Universities and Colleges (ZAPUC) Conference. Volume 3, Issue 1 pp 80-84

Consultancy

1. As Principal Consultant Dr. Mwaka Siluonde submitted an expression of interest to ZANEC with Ms. Munsaka Siankuku(SNAS) and Dr. Charity Meki-Kombe(Director, Research and Postgraduate Studies) in March. The consultancy was to Research the status of Academic Freedom in Higher Education Institutions in Zambia.
2. SOE Research team submitted an Expression of Interest for UNESCO Consultancy - A Comprehensive Diagnostic Study on Teacher Issues for the Development of a National Teacher Policy - submitted on 10th September, 2023.
3. Dr Charity Meki Kombe as Co-consultant on a project led by Dr Jacqueline Jere-Folotiya (University of Zambia) on the country report - Progress in Education in the Sustainable Development Goals (SDGs) Spotlight - UNESCO (School-to-School International)

Awards

Nil

Partnerships and Linkages

Nil

Research Grants/Funded

1. Givers Chilinga and Chola K. Daniel, 2023 MU Research Funds. The research project titled “Examining Perspectives of Artisanal Mining, Hazardous Risks, and Urban Poverty Alleviation Nexus: A Case Study of Ngwenya Stone Crushers in Livingstone, Zambia.”
2. Ireen Moonga, Audrey Muyuni, Jive Lubungu. 2023 MU research funded project titled “The Impact of Climate change on Educational Policies in Zambia: An analysis of current challenges and future strategies.”

Collaborative Projects

1. Dr. Mwaka Siluonde has renewed her Postdoctoral Research Fellowship (Trans-nationality and Decoloniality in the Department of Anthropology at the University of the Free State, South Africa. She has published two articles on the project in 2023

2. Dr. Mwaka Siluonde is among 25 out of 200 applicants taking part in a two-year writing and mentorship early career scholar workshop organised by Southern African Institute for Policy and Research (SAIPR).
3. Mary Mbewe Mazimba attended 9th European Conference of African Studies in Cologne 29May-7 June 2023 where she presented on three panels 1. On museum transformations, at a public roundtable at the Rautenstrauch-Joest Museum and as Discussant at Kare Tranberg Hansens book launch for book titled “Dress Cultures in Zambia: Interwoven Histories, Dress Cultures and Everyday Life”.
4. Mary Mbewe Mazimba attended a 2-day online workshops organised by Fowler Museum on Restitution of Museum Objects in European Museums Taken from Africa during colonial period.
5. Mary Mbewe was a keynote speaker on “Memorilisation of Polish WWII Polish Refugee Camps in Zambia” at the 10th South African-Polish Heritage conference under the theme “Southern Africa-On the Edges of Polish Identity.”
6. Dr Charity Meki-Kombe collaborated with Srivastava (India) and Nerad, M. (USA) on a project titled ‘Joys, challenges, and responsibilities of the doctoral supervision relationship: Perspectives from three countries’ The book chapter is expected to be published in a book titled: ‘Supporting Doctoral Candidates - part of the Surviving and Thriving in Academia series. Editor: Chris Rolph and Marian Mahat. The expected publication date is 26 March 2024.
7. Dr. Charity Meki-Kombe collaborated with scholars from the USA, Australia, Japan, and other countries to co-author a book chapter titled "Uncovering the Art of Building Communities: A Story of a Global Network for Early and Mid-Career Researchers" for the forthcoming book, "Building Communities in Academia," to be published by Emerald Publishers.

Future Research Areas

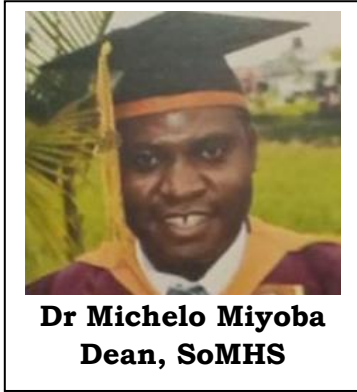
None

Community Engagement

Nil

CHAPTER FIVE

SCHOOL OF MEDICINE AND HEALTH SCIENCES



Dr Michelo Miyoba
Dean, SoMHS

The School of Medicine and Health Sciences (SoMHS) offers both undergraduate and postgraduate programmes at the Livingstone Campus. The Livingstone University Teaching Hospital is the main Practicum site for the campus. The undergraduate programmes include: Bachelor of Medicine and Bachelor of Surgery (MBChB), Bachelor of Biomedical Sciences, (BSc. Biomed) and Bachelor of Pharmacy, (B. Pharm). The postgraduate programmes include the following: Master of Science in Human Anatomy, Master of Science in Biochemistry, Master of Science in Chemical Pathology, Master of Science in Immunopathology, Master of Public Health, Doctor of Philosophy in Human Anatomy (PhD), Doctor of Philosophy in Medical Biochemistry (PhD), Doctor of Philosophy in Pathology (PhD).

Throughout the year under review, both academic staff and students of the school were highly active in research.

The School is committed to creating and maintaining an environment that promotes excellence in service delivery anchored on training, research, consultancy and community service. The school strives to promote and maintain the highest standards of professional attitudes amongst faculty and students to provide a healthy and safe learning environment. In addition, the SoMHS is committed to improving the general health of all people through education, research, development, and application of new knowledge in the basic and clinical medical sciences. The school also continues to focus on transparency, collaboration, accountability, and representative participation in pursuit of its services.

Research Groups

The school has recently developed several research groups spread across various staff specialties. The groups have been allocated according to research themes as follows:

1. Trauma and surgical sciences
2. Drugs and chemical discovery, evaluation, improvement, etc
3. Basic sciences research / implementation research-approach
4. Health professions education innovation and initiatives/ quality assurance, control, improvement / interventions impact evaluations

5. Infectious diseases and complications of infections/ disease surveillance/ inection prevention and health promotion
6. NCD/Nutrition/Biochemistry /Physiotherapy/ Immuno and Chem pathology, Endocrinology

Publications

1. Masenga, S.K., Pilic, L. & Kirabo, A. Salt Taste and Salt Sensitive Hypertension in HIV. *Curr Hypertens Rep* 25, 25–33 (2023). <https://doi.org/10.1007/s11906-023-01236-6>
2. Masenga, SK., Romanelli, A., Kooij, KW. Plasma osteopontin in persons with HIV and the risk for cardiovascular disease. *AIDS* 37(2): p 355-357, February 1, 2023. DOI: 10.1097/QAD.0000000000003445
3. Uthman Ademola Yusuf, Musonda Kambele, Wana Iputu, Mpeza Kalowa, Michelo Miyoba, Isabel Namfukwe Luambia Luambi, Precious Simushi and Aminat Adejoke Yusuf (2023). Histological investigation of aqueous extract of cactus on the heart of diabetic Wistar rats. *GSC Biological and Pharmaceutical Sciences*. 22(01), 134–142
4. Uthman Ademola Yusuf, Mpeza Kalowa, Musonda Kambele, Wana Iputu, Memory Ngosa, Isabel Namfukwe Luambia Luambi, Precious Simushi and Aminat Adejoke Yusuf (2023). Micro anatomical effects of aqueous cactus extract in the lungs of a diabetic Wistar rat. *World Journal of Advanced Research and Reviews*. 17(01), 410–416
5. Halwiindi, H Choka, L., Phiri, M., Tapisha, B., Masenga, S., Mudenda, J...Hamooya, B. (2023). Reach and mass drug administration for worm infections through health Facility, school, community-based approaches in two districts of Zambia: As Scale-up. *Epidemiology & Infection*, 1-18. doi:10.1017/S0950268823000912
6. Masenga, S.K., Pilic, L. & Kirabo, A. Salt Taste and Salt Sensitive Hypertension in HIV. *Curr Hypertens Rep* 25, 25–33 (2023). <https://doi.org/10.1007/s11906-023-01236-6>
7. Masenga, SK., Romanelli, A., Kooij, KW. Plasma osteopontin in persons with HIV and the risk for cardiovascular disease. *AIDS* 37(2): p355-357, February 1, 2023. DOI: 10.1097/QAD.0000000000003445

8. Miyanda Petty M, Mavis Ngalande Zulu. Prevalence of Low Birth Weight and Associated Factors among HIV Exposed and Non-exposed Newborns in Kalomo, Zambia. *Omniscience: A Multi-disciplinary Journal*. 2023; 12(3): 20–27p.
9. Miyanda Petty, Lwando Catherine. Antibiotic Prescribing Patterns in Paediatrics at A Tertiary Care Hospital in Mansa, Zambia. *Research & Reviews: A Journal of Drug Design & Discovery*. 2023; 9(3): 62–71p.
10. Simushi P, Kalunga M N, Mwakyoma T, Mwewa M, Muchaili L, Hazeemba N, Mulenga C, Mwewa P, Chiyenu KOR, Kachimba J, Choonga P, Shibemba A, Hamooya BM, Zambwe M, Chipimo PJ, Kasonka L. Verification of dried blood spot as a sample type for HIV viral load and early infant diagnosis on Hologic Panther in Zambia. *BMC Res Notes*. 2023 May 11;16(1):75. doi: 10.1186/s13104-023-06344-9. PMID: 37165436; [PMCID](#): PMC10172060.
11. Uthman Ademola Yusuf, Musonda Kambele, Wana Iputu, Mpeza Kalowa, Michelo Miyoba, Isabel Namfukwe Luambia Luambi, Precious Simushi and Aminat Adejoke Yusuf (2023). Histological investigation of aqueous extract of cactus on the heart of diabetic Wistar rats. *GSC Biological and Pharmaceutical Sciences*. 22(01), 134–142
12. Uthman Ademola Yusuf, Abigail Banda, Christine Banda, Sam Beza Phiri, Michelo Miyoba, Aminat Adejoke Yusuf, ^{John} Mulemena , Kingsley M Kamvuma Olubukola Iyanuoluwa Ademola (2023). PSIDIUM GUAJAVA LEAVES EXTRACT AND ANTIDIABETIC: CARDIOPROTECTIVE EFFECTS IN DIABETIC MALE WISTAR RAT. *WJPPS*. 12(6): 59-73.
13. Uthman Ademola Yusuf, Wana Iputu, Musonda Kambele, Mpeza Kalowa, Michelo Miyoba, Isabel Namfukwe Luambia, Precious Simushi, Aminat Adejoke Yusuf, Memory Ngosa (2023). [A Histological Study on the Effect of Aqueous Extract of Cactus on Frontal Cortex of Diabetes Mellitus Wistar Rat](#). *European Journal of Pharmaceutical Research*. 3(2): 5-11
14. Victoria Mwiinga Kalusopa1, Patricia Katowa-Mukwato, Kabwe Chitundu...Concepta Kwaleyela...et al., (2023). Experiences of Early and Enhanced Clinical Exposure for Postgraduate Neonatal Nursing Students at the University of Zambia, School of Nursing Sciences: Lessons and Implications for the Future. *Open Journal of Nursing*, 13: 352-367. DOI: 10.4236/ojn.2023.136024

15. Mutengo KH, Masenga SK, Mweemba A, Mutale W, Kirabo A. Gut microbiota dependant trimethylamine N-oxide and hypertension. *Front Physiol.* 2023 Apr 6; 14:1075641. doi: 10.3389/fphys.2023.1075641. PMID: 37089429; PMCID: PMC10118022.
16. Miyanda Petty M, Mavis Ngalande Zulu. Prevalence of Low Birth Weight and Associated Factors among HIV Exposed and Non-exposed Newborns in Kalomo, Zambia. *Omniscience: A Multi-disciplinary Journal.* 2023; 12(3): 20–27p.
17. Miyanda Petty, Lwando Catherine. Antibiotic Prescribing Patterns in Paediatrics at A Tertiary Care Hospital in Mansa, Zambia. *Research & Reviews: A Journal of Drug Design & Discovery.* 2023; 9(3): 62–71p.
18. Simushi P, Kalunga M N, Mwakyoma T, Mwewa M, Muchaili L, Hazeemba N, Mulenga C, Mwewa P, Chiyenu KOR, Kachimba J, Choonga P, Shibemba A, Hamooya BM, Zambwe M, Chipimo PJ, Kasonka L. Verification of dried blood spot as a sample type for HIV viral load and early infant diagnosis on Hologic Panther in Zambia. *BMC Res Notes.* 2023 May 11;16(1):75. doi: 10.1186/s13104-023-06344-9. PMID: 37165436; PMCID: PMC10172060.
19. Uthman Ademola Yusuf, Musonda Kambele, Wana Iputu , Mpeza Kalowa, Michelo Miyoba , Isabel Namfukwe Luambia Luambi, Precious Simushi and Aminat Adejoke Yusuf (2023). Histological investigation of aqueous extract of cactus on the heart of diabetic Wistar rats. *GSC Biological and Pharmaceutical Sciences.* 22(01), 134–142
20. Uthman Ademola Yusuf, Abigail Banda , Christine Banda , Sam Beza Phiri, Michelo Miyoba, Aminat Adejoke Yusuf, John Mulemena , Kingsley M Kamvuma Olubukola Iyanuoluwa Ademola. PSIDIUM GUAJAVA LEAVES EXTRACT AND ANTIDIABETIC: CARDIOPROTECTIVE EFFECTS IN DIABETIC MALE WISTAR RAT. *WJPPS.* 12(6): 59-73.
21. Uthman Ademola Yusuf, Mpeza Kalowa, Musonda Kambele, Wana Iputu, Memory Ngosa, Isabel Namfukwe Luambia Luambi, Precious Simushi and Aminat Adejoke Yusuf (2023). Micro anatomical effects of aqueous cactus extract in the lungs of a

diabetic Wistar rat. *World Journal of Advanced Research and Reviews*. 17(01), 410–416

22. Uthman Ademola Yusuf, Wana Iputu, Musonda Kambele, Mpeza Kalowa, Michelo Miyoba, Isabel Namfukwe Luambia, Precious Simushi, Aminat Adejoke Yusuf, Memory Ngosa (2023). A Histological Study on the Effect of Aqueous Extract of Cactus on Frontal Cortex of Diabetes Mellitus Wistar Rat. *European Journal of Pharmaceutical Research*. 3(2): 5-11
23. Victoria Mwiinga Kalusopa, Patricia Katowa-Mukwato, Kabwe Chitundu...Concepta Kwaleyela et al., (2023). Experiences of Early and Enhanced Clinical Exposure for Postgraduate Neonatal Nursing Students at the University of Zambia, School of Nursing Sciences: Lessons and Implications for the Future. *Open Journal of Nursing*, 13: 352-367. DOI: 10.4236/ojn.2023.136024
24. Samuel Bolaji Mesole, Omachonu Alfred Okpanachi, Uthman A Yusuf, Elvis Tams Godam and Abel Nosereme Agbon (2023). Effect of Eugenol on Brain Neurotrace Elements and Cytoarchitecture of the Cerebral Cortex of Wistar Rats Following Aluminum Induced Neurotoxicity. *Biomed J Sci & Tech Res* 53(4)-2023. BJSTR. MS.ID.008425.
25. Uthman Ademola Yusuf, Mwewa Masamba, Betty Banda, Sam Beza Phiri, Michelo Miyoba, Aminat Adejoke Yusuf, John Mulemena , Kingsley M Kamvuma, Olubukola Iyanuoluwa Ademola (2023). Maintenance of Renal integrity of Diabetic Wistar Rats treated with aqueous extract of *Psidium guajava* MUMJ. 4(1): 162-170
26. Gideon Zulu, Chummy S Sikasunge, Tamara M Welte, Martin C Simuunza, Dominik Stelzle, Veronika Schmidt, Alex Hachangu, Wilbroad Mutale, Maxwell Masuku, Mwelwa Chembensofu, Clarissa Prazeres da Costa, Kabemba E Mwape, Andrea S Winkler, Isaac K Phiri. Epidemiology of intestinal helminthiasis with an emphasis on taeniasis in Chipata district of the Eastern province of Zambia. *PLOS Neglected Tropical Diseases*. 2023 November 20.
27. Gideon Zulu, Kabemba E Mwape, Tamara M Welte, Martin C Simuunza, Alex Hachangu, Wilbroad Mutale, Mwelwa Chembensofu, Chummy S Sikasunge, Isaac K Phiri, Andrea S Winkle. Community knowledge, attitudes and practices related to *Taenia*

solium taeniosis and cysticercosis in Zambia. PLoS Neglected Tropical Diseases. 2023 August 10.

28. Akapelwa, T. M. (2023). Antidiabetic, and radical scavenging activity of *Kigelia africana* fruit fractions. December. <https://doi.org/10.55320/mjz.50.1.376>

Books

None

Book Chapters

None

Conference Papers/Presentations

None

Research

1. “Impact of clinical laboratory test profile on the clinical management and outcome of Acute Kidney injury at Livingstone University Teaching Hospital: The ICLaTA study
2. Salt taste sensitivity, genetics, and salt sensitivity of blood pressure in HIV
3. Predictors of nocturnal non-dipping blood pressure and sodium excretion in persons with and without hypertension
4. Correlates and complications of uncontrolled type II diabetes Mellitus (T2DM).
5. Taste receptor gene variation and sweet taste sensitivity in persons with diabetes mellitus
6. Correlates and complications of uncontrolled type ii diabetes mellitus at Mahatma Gandhi memorial clinic in Livingstone
7. Prevalence and correlates of microalbuminuria in adults with or without hypertension at Kanyama General hospital
8. Proinflammatory and renal biomarkers associated with diabetes mellitus type 2
9. Correlates of poor vibration perception threshold (VPT) in diabetes patients.

10. Erectile dysfunction in men with type 2 diabetes mellitus in Livingstone
11. Inflammation, salt sensitivity and hypertension
12. Peripheral neuropathy in people living with HIV
13. Correlates of an immediate pressor response to oral salt (IPROS): a time series clinical trial
14. Sweet taste sensitivity and glucose trends in young adult population at Rusangu University in Monze District
15. Prevalence of viral load suppression and HIV-1 drug resistance mutations in adult patients on TLD/TAFED at Arthur Davison children's hospital, Ndola
16. Complete blood-count-based inflammatory scores (CBCIs) as a predictor of hypertension in person living with and without HIV in Serenje, Zambia
17. Burden of Mycobacterium Tuberculosis, drug resistance and associated factors among presumptive tuberculosis patients at Mazabuka General Hospital
18. Correlates and burden of hepatitis B at Mwandu mission hospital
19. Sex differences in dietary salt behaviors related to high blood pressure risk in Zambezi district community
20. Diagnostic accuracy of using a quantitative Prostate Specific Antigen (PSA) and Prostate Cancer Antigen 3 (PCA3) algorithm to identify prostate Cancer
21. Sex differences in Uric acid and Inflammatory markers as predictors of Blood pressure in a cohort of people living with HIV at Chilenje Level 1 Hospital
22. Human Papilloma Virus pathology in precancerous and cancerous cervical lesions at Livingstone University Teaching Hospital
23. Salt taste sensitivity in hypertension

Consultancy

From January 1, 2023 to the present, only one consultation has been conducted which involves evaluating HIV Care Continuum in Western Province: Insights into Treatment, Retention, Viral Suppression, and Prevention strategies “EHCREVIP”

Awards

None

Partnerships and Linkages

None

Research Grants/Funded

1. IFCC’s TF-OSLM Masenga (PI, Zambia) 03/2023-12/2024 IFCC's Task Force on Outcome Studies in Laboratory Medicine (ICLATA st) “Impact of clinical laboratory test profile on the clinical management and outcome of Acute Kidney injury at Livingstone University Teaching Hospital: The ICLaTA study Amount: CHF 9,693.36 2.
2. 1R21TW012635-01 Kirabo (PI) and Masenga (MPI) 07/01/2023 - 06/30/2025 Salt taste sensitivity, genetics, and salt sensitivity of blood pressure in HIV <https://www.fic.nih.gov/Grants/Search/Pages/hiv-ncd-r21tw012635.aspx>

Major Goals: Salt taste sensitivity is a driver of salt intake and therefore likely to increase the risk of developing hypertension especially among persons with HIV where the risk is heightened. Genetic association studies in this area are limited with more research needed in populations of different ethnic backgrounds, such as African populations. The goal of this study is to explore the link between salt taste sensitivity and salt intake, blood pressure, hypertension, and genetic variations in the taste receptor gene of ENaC in individuals of African descent.

Total Award Amount: \$215,786

Subaward to be administered by Mulungushi University \$115,748 3.

3. MU research fund PI: Bupe Bwalya; Masenga (Co-PI) 09/2022- 12/2023 Correlates and complications of uncontrolled type II diabetes Mellitus (T2DM). Amount: K97,085.
4. Histological and Histochemical studies of some effects of Aqueous Extract of Hibiscus on the Brain, Liver, kidney and Lungs of Cadmium induced toxicity in Wistar Rats. Amount: K50,000

Collaborative Projects

None

Future Research Areas

None

Community Engagement

The school regularly engages in community-based projects through its CBE programmes.

CHAPTER SIX

SCHOOL OF NATURAL AND APPLIED SCIENCES



Dr George Mukupa
Dean, SNAS

The School of Natural and Applied Sciences (SNAS) spans an entire range of scientific teaching and research, from pure and fundamental discovery that advances our understanding of the world around us to the direct application of science and technology which transforms and improves lives as well as sustaining the environment. The School produces graduates at both postgraduate and undergraduate levels who do not only understand science but are relevant to industry as well.

The School consists of three departments namely: Department of Physics, Department of Mathematics and Statistics as well as the Department of Chemistry and Biology, with a total of eight (8) programmes. The school is also teaching foundation sciences for pre-medicine and pre-engineering students.

Research Groups

The school has a total of five (5) research groups spread across departments as follows:

- i. Mathematics and Statistics
- ii. Chemistry
- iii. Physics
- iv. Microbiology and Biotechnology
- v. Laboratory Science

Publications

1. Stanley Jere, George Mukupa, Edwin Moyo (2023), "Portfolio management problem with stochastic wage income and inflation-adjusted wealth", *Journal of Mathematical Finance*.
2. Christian Kasumo (2023), "On Analytical Solutions of the Classical Gas Dynamics Equation", *International Journal of Advances in Applied Mathematics and Mechanics*, 10(4) (2023) 1 – 7 (ISSN: 2347-2529).
3. Christian Kasumo (2023), "An Efficient Iterative Scheme for Solving the Standard Biological Population Model", *International Journal of Advances in Applied Mathematics and Mechanics*, 10(4) (2023) 8 – 16 (ISSN: 2347-2529).

4. Jimmy Daka (2023), "Heavy Metals Presence in Mufurila River on the Copperbelt Province of Zambia, A Case Study. TIJER, Vol. 10 Issue 3.
5. Munsaka Siankuku (2023), "Quantitative Structure-Activity Relationship (Qsar) Modeling Studies of 4, 6- Diaryl-2- Pyrimidinamine Derivatives as Anti-Breast Cancer Agents. International Journal of Pharma and Bio Sciences.
6. Manyika M. Davy, Katongo Judith (2023). Gluon jets evolution in the quest for new physics, Physics & Astronomy International Journal 7 (2), pp. 109-111.
7. George L.A., Manyika Davy K. (2023), The coleman-weinberg potential and its application to the hierarchy problem, Physics Astron Int Journal 7 (2), pp104-107
8. Bupe Kolosa, Levy K Matindih, Edwin Moyo (2023). Computation of Reinsurance Premiums by Incorporating a Composite Lognormal Model in a Risk-Adjusted Premium Principle, Journal of Mathematical Finance.Vol. 13 issue 1, pp. 1-16
9. Agripa Hamweendo Manyika Kabuswa Davy, Levy Kahyata Matindih (2023). A brief overview of radiation waste management and nuclear safety. Physics and Astronomy International Journal, Vol. 7, issue 2, pp. 150-151
10. Neha Sharma, Shivani Sharma, Munsaka Siankuku, Kalirajan Arunachalam (2023), Nanotechnological interventions for sustainable effluent management solutions: A strategic approach. Elsevier. <https://doi.org/10.1016/B978-0-323-91782-7.00017-5>
11. Victor Chikampa, Derrick Banda (2023). The Effect of Mathematics Anxiety on Mathematics Self Efficacy and Perceived Mathematics Achievement. Journal of Research and Innovation in Social Science (IJRISS), vol. 7(6), pages 1010-1017.
12. MK Davy, PJ Banda, A Hamweendo (2023). Automatic vehicle number plate recognition system. Phys Astron Int J, Vol. 7, issue 1, pp. 69-72.

13. Hamweendo Agripa Manyika Kabuswa Davy, Matindih Kahyata Levy (2023). A brief overview of radiation waste management and nuclear safety. *Physics & Astronomy International Journal*, Vol. 7 issue 2, pp. 150-151
14. Davy Kabuswa Manyika, Levy Kahyata Matindih, Elijah Bwanga Mpelele, Jimmy Hambulo (2023). Some Characterizations of Upper and Lower M-Asymmetric Preirresolute Multifunctions. *Advances in Pure Mathematics*, Vol. 4 issue 1, pp. 267-283
15. Mbewe Michael Manyika Kabuswa Davy, Mwape Kelvin (2023). Towards a zero-carbon nuclear energy future: a review. *Physics & Astronomy International Journal*. Vol. 7, issue 2, pp. 118–120
16. Manyika Kabuswa Davy, Likolo Anabiwa George, Katongo Judith (2023). On the synopsis of the Higgs boson. *Physics & Astronomy International Journal*, pp. 113-116.
17. Daka J. Jimmy, Aline Muthali, Hyden Simwatachela (2023). Suitability Evaluation of Pumpkin Seed Oil Biodiesel as a Possible Diesel for Zambia. *Current Journal of Applied Science and Technology*, Vol. 42, issue 14, pp. 24-33.
18. Muwanei S., Mukupa G., (2023). The Adoption and Usage of Recommender Systems in Tertiary Institutions in Zambia: A Case of Mulungushi University. *Zambia Association of Public Universities and Colleges*, Vol. 3, Issue 1, pp. 120-123.
19. Levi K. Matindih, Danny Mukonda (2023). Some concepts of boundedness in modular metric spaces.
20. Levi K. Matindih (2023). A brief overview of solar cycle variability effects on climate. *Physics & Astronomy International Journal*, Vol. 7(3), 189-190
21. Christian Kasumo, Edwin Hapunda (2023), On the Solution of Partial Differential Equations using the Sumudu and Elzaki Transforms. *International journal of Advances in Applied Mathematics and Mechanics*, 11 (2), pp. 174-191.
22. Obvious Hamweene, Stanley Jere, Samuel Asante Gyamerah, Edwin Moyo (2023) Multivariate time series analysis: A Statistical application on Mortality and Patient Admissions count data for Kabwe. *International journal of Advances in Applied Mathematics and Mechanics*, 11 (3), pp. 1-

17. http://www.ijaamm.com/uploads/2/1/4/8/21481830/v11n3p1_1-17.pdf

Books

Kalirajan Arunachalam, Aparna Ganapathy Vilasam Sreekala (2023). Lignocellulosic Biomass Refining for Second Generation Biofuel Production. CRC Press.

Book Chapters

1. Jimmy J. Daka, George Mukupa (2023), Book Chapter. Polyaniline Nanostructures: Techniques in Structure-Tailored Polymerization-Superstructures in "Polyaniline - from Synthesis to Practical Applications", IntechOpen, UK. DOI: 10.5772/intechopen.1002022
2. Kalirajan Arunachalam, George Mukupa, (2023). Book Chapter 13. Nanotechnology Applications in Food and Bioprocessing Industries in "Nanomaterials for Bioreactors and Bioprocessing Applications." Elsevier Book. <https://doi.org/10.1016/B978-0-323-91782-7.00005-9>

Conference Papers/Presentations

1. All three (03) departments under SNAS attended ZAPUC Administrative Training workshop held at Mulungushi University from 19th April, 2023 to 21st April, 2023.
2. Dr. George Mukupa and Dr Sinyinda Muwanei presented a paper at ZAPUC conference in Livingstone held from 7th to 9th June, 2023 at Radisson Blu Hotel-Livingstone, Zambia. This paper has been published.
3. Dr Kalirajan presented a paper at International Decolonizing Education Conference in April, 2023.
4. Mr. Danny Banda presented a paper at the 2nd Mulungushi International Conference held at Mulungushi University from 16th November 2023 to 17th November, 2023.

Research

Dr. Manyika Davy, Mr. Peter J. Banda and Dr A. Hamweedo completed research titled Automatic vehicle number plate recognition system and published in Physics Astronomy International Journal, Vol. 7, issue 1, pp. 69-72.

Consultancy

1. **Simwatachela H.**, conducted a two cycle of a short courses in Laboratory Quality Management System April and June, 2023.
2. **Edwin Moyo** conducted a short course in Statistical package for Social Sciences from February to March, 2023.

Awards

1. Mr. Obvious Hamweene completed Masters studies successfully. He also graduated on 3rd November, 2023 at Mulungushi University. He was a staff development fellow (SDF) in the department of Mathematics and Statistics.
2. Mr. Edwin Moyo was awarded funding by MU as a Research Fellow to pursue PhD at University of Botswana
3. Mr. Hyden Simwatachela was awarded funding by MU as a Research Fellow to pursue PhD at the University of Zambia.

Partnerships and Linkages

1. Dr Kayamba was selected to partake in an Associate Programme which took place from 22nd July to 24th September, 2023 in the Netherland to represent Zambia through Ministry of Foreign Affairs and International Cooperation (MoFAIC).
2. Mr. Peter Jairos Banda was appointed member of the local organizing committee for the African Geophysical Society (AGS) International Conference and the International Space Weather Initiative (ISWI) summer school. He is the Mulungushi University link person to act on behalf of the Physics Society of Zambia.
3. Dr Jere attended a workshop in Kenya.
4. Dr. Obias Chimbola, Dr. Stanley Jere, Mr. Jimmy Daka, Mr. Hyden Simwatachela and Dr. Arunachalam Kalirajan attended the 2nd Mulungushi International Conference held at Mulungushi University from 16th November 2023 to 17th November, 2023.

Research Grants/Funded

1. Francis Kayamba, Danny Banda, Ian Mwewa. 2023 MU funded project titled “Design, Synthesis and Biological Evaluation of Pyrimidine Based Hybrids as a Promising Class of Antiplasmodial Agents.”
2. Hyden Simwatachela. MU funded project titled were awarded the 2023 MU funded research projects

3. James Mulenga, Edwin Moyo and Yordanos Gebremeskel. 2023 MU funded project titled “Impact of National Health Insurance Scheme (NHIMA) On Health Seeking Behaviour Among Individuals in Central and Copperbelt Provinces of Zambia.”
4. Wamulume Mushala, Clement Mwaanga and Edwin Moyo. 2023 MU funded project titled “Post COVID 19 Business Development Services: SMEs Sustainability Strategies.”

Collaborative Projects

None

Future Research Areas

None

Community Engagement

1. The school participated in Careers Fair in Sentinel Kabitaka Careers Fair in Solwezi held on 28th July, 2023.
2. The school participated in the Central Province Agricultural and Commercial Show held at Kabwe Warriors Stadium from 14th to 16th July, 2023. The University won the first prize.
3. Dr. George Mukupa served as Guest of Honor for the Harvest Sunday of the United Church of Zambia, St Andrews Congregation held on 13th August, 2023.
4. The school participated in the careers exhibition by school guidance services unit of Ministry of Education in conjunction with UNICEF in Lusaka from 27th to 29th September, 2023.

CHAPTER SEVEN

SCHOOL OF ENGINEERING AND TECHNOLOGY



Mr. Brian Halubanza
Dean, SET

The School of Engineering and Technology (SET) was established in 2022 after a split of the School of Science, Engineering and Technology. The current School offers programmes in engineering, computer science and Information Technology. The School continues to work diligently to enhance its academic and research mission and partnerships to ensure alignment to institutional objectives and societal needs.

The School recognizes its responsibility to participate in governance of the University, including the implementation of educational programmes, research, and continuing education programmes. The school strives to implement its programmes in ways which will develop and maintain the engineering, computer science and Information and Communication Technology competence of the students at the undergraduate and postgraduate levels.

Research Groups

The School of Sciences Engineering and Technology has a total of four (4) research groups spread across four departments. The following research groups are established in the school:

- i. Data Mining and Software Engineering
- ii. Geomatics and Civil Engineering
- iii. Electronics, power/energy, and control engineering
- iv. Mechanical Engineering

Publications

Manyika Kabuswa Davy, Agripa Ham-weendo, Peter Jairous Banda, 1 (2023) Automatic vehicle number plate recognition system, Phys Astron Int J. 2023;7(1):69–72.

Mulenga, Mwenge & Phiri, Musa & Simukonda, Luckson & Fadele, Alaba. (2023). A Multistage Hybrid Deep Learning Model for Enhanced Solar Tracking. IEEE Access. PP. 1-1. 10.1109/ACCESS.2023.3333895. (Manuscript available)

Books

None

Book Chapters

None

Conference Papers/Presentations

1. Halubanza, B., Kadakwiza, S., & Mulenga, J. (2023, August). Distracted Minds and Declining Grades: Unveiling the Detrimental Effects of Digital Distraction on Student Academic Performance. In Zambia Association of Public Universities and Colleges (ZAPUC) Conference (Vol. 3, No. 1, pp. 27-36).
2. Muwanei, S., & Mukupa, G. (2023, August). The Adoption and Usage of Recommender Systems in Tertiary Institutions in Zambia: A Case of Mulungushi University. In Zambia Association of Public Universities and Colleges (ZAPUC) Conference (Vol. 3, No. 1, pp. 120-123).
3. Halubanza, B., Nkunika, P. O., Phiri, J., Nyirenda, M., & Kunda, D. (2023, August). Locust Infestations and Mobile Phones: Exploring the Potential of Digital Tools to Enhance Early Warning Systems and Response Mechanisms. In Zambia Association of Public Universities and Colleges (ZAPUC) Conference (Vol. 3, No. 1, pp. 69-75).
4. Mwenge M, Phiri M. and Simukonda,L, (2023). Feature Enhancement and Chaining of Deep Neural Networks in Colorectal Cancer Classification based on GutMicrobiome Data, PAN AFRICAN CONFERENCE ON SCIENCE, COMPUTING & TELECOMMUNICATIONS, 12 - 13 September 2023

Research

Nil

Consultancy

1. The Use of Artificial Intelligence in Pastoral Ministry.
2. Training of ZRA staff in Python and Applied Data Science (K39, 000).

Awards

None

Partnerships and Linkages

None

Research Grants/Funded

1. Goodson Masheka., Brian Halubanza, Kalolo Mukanga J. R, Ngalande. 2023 MU funded research project titled “Design and Production of Low-Cost Concrete Pavers for Mulungushi University Roads.”
2. Sinyinda Muwanei, Friday Mufuzi, Brian Halubanza. 2023 MU funded research project titled “Developing an Artificial Intelligence Model for Accurate Identification of Animal Species Using Skins.”

Collaborative Projects

Nil

Future Research Areas

Nil

Community Engagement

None

CHAPTER EIGHT

SCHOOL OF SOCIAL SCIENCES



Mr. James Mulenga
Acting Dean, SSS

Throughout the existence of MU, the School of Social Sciences (SSS) has been one of the homes for the study of social sciences. Its distinctive academic excellence is rooted in forward thinking and continuously engaged in responding to societal needs.

The School continues to be at the forefront of offering demand driven programmes and research in the three departments, namely Economic, Political and Administrative Studies and Social

Development Studies. It continues to provide transformative programmes thus bringing in new understandings about the happenings of the world. All this is being done by instilling the belief and curiosity, boundless, creativity making our students ready for life-long learning that prepare them for the world.

Members of staff continue to be an intellectual epicenter for research through applied knowledge that not only informs but also informs decision making within the university and global society. This is all made possible by hard working academic staff and students with the school. Therefore, the school is well positioned in the pursuit of excellence in all its activities.

Research Groups

The School of Social Sciences has nine (9) research groups spread across four departments. The following research groups and principal Investigators have been established in the school:

- i. Public sector, trade and development economics environment and natural resources, small and medium enterprises, labour markets
- ii. Health economics, demography and population studies
- iii. Development studies
- iv. Psychology
- v. Social anthropology and social work
- vi. New public management, local government administration and public policy
- vii. International peace and security and crisis management
- viii. Democracy human rights and electoral governance.

Publications

1. Siachisa M., Shula R., Ms. Mulima S.S., and Nguluwe P.R. 2023. Examining the effectiveness of Ward Development Committees in the implementation of the decentralisation policy in Zambia. The case of Chibombo district. *International Journal of Humanities Social Sciences and Education (IJHSSE)* Volume 10, Issue 2, February 2023, PP 34-47
2. Kafula, S.C. et al. (2023) Higher Education in the Aftermath of the Pandemic: Lessons from Zambia; In; Shalin Hai-Jew edn, *Handbook of Research on Revisioning and Reconstructing Higher Education After Global Crisis*, Kansa State University, USA
3. Chisonga N. and Simwinga, N, (2023), *Mapping Existing Feedback Mechanism Platforms for Adolescent Health Services*; Avencion
4. Chikampa, V., Siwale, Kabanda, Chindele & Lubinda, M (2023) Relationship between Brand Experience, Brand Satisfaction and Brand Loyalty: An empirical Study of Imported Second Hand Vehicle Buyers in Zambia; *International Journal of Research and Innovation in Social Science (IJRISS)* Volume 7, issue III.
5. Chikampa, V., Obbina, Onukogu, Siwale & Kabanda, (2023) The Validation of the Manchester Drivers Behaviour Questionnaire (DBQ) on the Zambian Sample; *International Journal of Research and Innovation in Social Science (IJRISS)* Volume 7, issue III IJRISS
6. Siachisa M., Madimutsa C., Mulima S.S. and Nguluwe P.R. 2023. Privatisation, Public Debt and Exploitation of Citizens in Zambia. *African Journal of Public Administration and Environmental Studies*
7. Siachisa M. (2023). Regime Change and Implications on Policy Change and Implementation in Zambia. *International Journal of Political Science (IJPS)*. Volume 9, Issue 2, 2023, PP 28-36
8. Siachisa M. and Milukutu A. (2023). Assessing the Impact of Digital Transformation on Employee Performance in the Public Sector. A Case Study of Zambia's Ministry of Health Headquarters (2017-2022). *International Journal of Humanities, Social Sciences and Education*
9. Siachisa M., Nguluwe P. R. and Mushoke S. 2023. The Efficiency of Contracting-Out Local Government Service Delivery: Implications on Kabwe Municipal Council's Garbage. *International Journal of Humanities Social Sciences and Education (IJHSSE)*. Volume 10, Issue 9, September 2023, PP 185-199

10. Brian Malambo, Victor Chikampa, Acientos Mwansa, Nixon Chisonga, Jacqueline Siwale, Audrey Muyuni, Ireen Moonga. (2023). Voter Ethnicity as a Predictor of Voter choice. *International Journal of Multidisciplinary Research and Publication (IJMRAP)*.
11. Halubanza, B. Phiri, J. Nyirenda, M. Nkunica, P. Kunda, D and Mulenga, 2023. Locust Infestations and Mobile Phones: Exploring the Potential of Digital Tools to Enhance Early Warning Systems and Response Mechanisms. *Zambia ICT Journal* 7 (2), 10-16
12. Bwalya, B.B., Kasonde, M.E., Mulenga, J.N. *et al.* 2023. The association between contraceptive use and desired number of children among sexually active men in Zambia. *BMC Public Health* 23, 1833 (2023). <https://doi.org/10.1186/s12889-023-16750-0>
13. James Mulenga, Mulenga C Mulenga, Kunda Kaliba Chishimba, Sheila Chilala Kafula, Clement Mwaanga, Moulen Siame, Mary MS Lubinda. 2023. Impacts of Corona Virus Disease on Employment among Small and Medium Enterprises in Zambia. *MULUNGUSHI UNIVERSITY MULTIDISCIPLINARY JOURNAL*
14. James Mulenga, Chabila Christopher Mapoma, Brian Halubanza, Gift Kaira, Choolwe Mwiiya. 2023. Exploring the Factors Contributing To Rising Divorce Rates In Rural And Urban Zambia. *Mulungushi University Multidisciplinary Journal*
15. Chisonga, N., Kazungu, M., Sichone, J.D. (2023) Charcoal movements in Zambian Cities of Lusaka and Kitwe: from peri-urban markets to low and medium suburbs. *Mulungushi University Multidisciplinary Journal*, Vol. 4 No. 1
16. Jacqueline Siwale & Febby Latoya Mwiikisa & Victor Chikampa & Lukubi Lwiindi, 2023. "An assessment of Work Life Balance and Employee Performance in the Banking Sector: A Case of AB Bank Branches in Lusaka-Zambia," International Journal of Research and Innovation in Social Science, *International Journal of Research and Innovation in Social Science (IJRISS)*, vol. 7(7), pages 1471-1485, July.
17. Victor Chikampa & Alick Rabson Gumbo & Raymond Sooli Kawina & Cifwala Clement Hikacila & Audrey Muyuni & Jacqueline Siwale & Ireen Moonga, 2023. "Investigating the Psychometric Properties of the Mathematics Self-Efficacy and Anxiety Questionnaire on a Zambian Sample," International Journal of Research and Innovation in Social Science, *International Journal of Research and Innovation in Social Science (IJRISS)*, vol. 7(6), pages 1184-1191, June.

18. Victor Chikampa & Yuyi Simabwe & Cifwala Clement Hikacila & Raymond Sooli Kawina & Alick Rabson Gumbo & Jacqueline Siwale & Masautso Mwale & Nelson C Kabanda, 2023. "The Factor Structure of the Breast Cancer Screening Beliefs Questionnaire among Female Employees in Zambia: The Case of Lusaka District," International Journal of Research and Innovation in Social Science, International Journal of Research and Innovation in Social Science (IJRISS), vol. 7(6), pages 1018-1024, July.
19. Victor Chikampa, Derrick Banda, Jacqueline Siwale, Sheilas Kafula, Ireen Moonga, Alfred Daka & Lungowe Chindele, 2023. "The Effect of Mathematics Anxiety on Mathematics Self efficacy and Perceived Mathematics Achievement," International Journal of Research and Innovation in Social Science, International Journal of Research and Innovation in Social Science (IJRISS), vol. 7(6), pages 1010-1017, July.
20. Phiri, G. and Mumba K (2023) Analysis of Trends and Challenges in the Implementation of the Re-Entry Policy in Zambia, Manuscript submitted for journal publication
21. Mvula, N, Victor Chikampa, Siachisa, M., Sheilas Chilala Kafula & Stella Sibeso Mulima (2023). Psychological Capital and Innovative Behaviour as predictors of Employee In role Behaviour. Mulungushi University Multi-disciplinary Journal (MUMJ)
22. Mpola Shalooba, Victor Chikampa & Peter. R. Nguluwe (2023). The Mediation role of Psychological Well-being at work on the relationship between Shiftwork and Work Engagement among nurses in Zambia. A case of Selected hospitals in Kabwe district. Mulungushi University Multi-disciplinary Journal (MUMJ)
23. Audrey Muyuni, Ireen Moonga, Victor Chikampa & Matildah Mulenga (2023), An Analysis of pupil Absenteeism from grade 12 school certificate examinations in Zambia. Journal of Educational Assessment in Africa, Volume 15

Books

None

Book Chapters

Chilala, Kafula. Sheilas., Chikampa, V., Moonga, F., & Hamauswa, S. Interactions of community development and local reforms in rehabilitating juvenile offenders in Zambia, InEd(2023). Community Development practice in Africa putting theory to practice. (Information Age Publishers).

Conference Papers/Presentations

1. A Muyuni, J Lubungu, I Moonga, V Chikampa (2023) [Transformation Leadership Style a Satellite to Change Economic Environment: A Review on Zambian Colleges of Education](#). Zambia Association of Public Universities and Colleges (ZAPUC) Conference 3 (1)
2. Halubanza, B. Kadakwiza, S, Mulenga J (2023). [Distracted Minds and Declining Grades: Unveiling the Detrimental Effects of Digital Distraction on Student Academic Performance](#). Zambia Association of Public Universities and Colleges (ZAPUC) Conference.
3. Brian Halubanza, Jackson Phiri, Mayumbo Nyirenda, Phillip Nkunika, Douglas Kunda, James Mulenga. 2023. [Locust Infestations and Mobile Phones: Exploring the Potential of Digital Tools to Enhance Early Warning Systems and Response Mechanisms](#). Zambia ICT Journal

Research

1. Mwansa, A., Mauzu, DM and Simfukwe, K. Corruption, access to services, regulation and business performance: Being finalised
2. Gebremeskel, Y. Lichilo, I and Mulenga J. Household energy needs, preferences, and utilization pattern in Zambia. Ongoing

Consultancy

	Grant	Organisation	Amount	Status
1	Impact of NHIMA on health seeking behaviour	Mulungushi University	K50,000	Granted
2	<u>The paradox of FISP in graduating Small Scale Farmers to Medium and Commercial Enterprises in Choma District, Zambia,</u>	Mulungushi University	K50,000	Granted
3	Study on Social Profiling of Lukanga Wetlands community for Just Climate Action		\$15,000	Granted

Awards

None

Partnerships and Linkages

1. The school collaborates with the University of Fort Hare, South Africa through the Visiting Professor
2. Department of Economics collaborates with ZIPAR by offering Visiting Research Fellows

Research Grants/Funded

1. Mulenga J, Mulenga K, Moyo, E and Gebremeskel, Y. Impact of NHIMA on health seeking behaviour: Funded
2. Chisonga. The paradox of FISP in graduating Small Scale Farmers to Medium and Commercial Enterprises in Choma District, Zambia,

Externally funded Consultancy:

None

Collaborative Projects

1. Privatisation, Public Debt and Exploitation of Citizens in Zambia. (Authors from UNZA and MU: Siachisa M., Madimutsa C., Mulima S.S. and Nguluwe P.R.)
2. Staff Member Sichone J. D. as Member of the MCDSS constituted Technical Working Group on the Social Workers Association of Zambia Bill (now known as Act Number 4 of 2022 following Presidential Assent on 12th April, 2022) since 2016; has during the quarter been involved in work to finalize the Statutory Instruments (SIs) that will bring the Act to operation. He is part of a group representing diverse stakeholders that have been working on this effort. The final draft was formally presented to the MCDSS on **Tuesday 16th May, 2023**. Remaining work is on revising the Code of Ethics for Social Workers in Zambia.
3. Staff Member S.C. Kafula is involved in the ‘Smart and Resilient Villages through Higher Education and Research Project’. This is an Erasmus+ capacity building project of African and European Universities. Among the Institutions involved in this collaboration includes Lab University (Finland); LUT University (Finland); University of Namibia; University of Lusaka (Zambia); and Mulungushi University (Zambia).

Future Research Areas

1. Impact of Zambia joining AfCFTA on trade flows, revenue and welfare.
2. Household energy use transition

3. Effect of NHIMA on healthcare seeking behaviour
4. Decentralisation in Zambia

Community Engagement

One member of staff (Mr. Mataka) participated in the 2023 Broken Hill Man Ultra Marathon, an event to raise funds for planting of indigenous trees under the theme, 'A Green Environment is a Safe Environment, Plant More Trees'

CHAPTER NINE

SCHOOL OF NURSING AND MIDWIFERY



Prof. Concepta N. Kwaleyela
Acting Dean, SoNM

The School of Nursing and Midwifery (SoNM) located at the Town Campus of Mulungushi University (MU) was established in September 2023. It is however important to note that from September 2020, it was as a Department of Nursing Sciences (DNS) in the School of Medicine and Health Sciences (SoMHS).

As a Department, the following programmes were offered:

1. Bachelor of Science in Nursing
2. Abridged Registered Nursing

Elevation to school status entails that the scope of programmes to be offered has broadened. Hence, in addition to the two programmes already being offered, the School is in the process of offering the following Nursing and Midwifery programmes:

1. Diploma in Nursing
2. Diploma in Midwifery
3. Bachelor of Science in Midwifery
4. Bachelor of Science in Paediatrics and Child Health
5. Master of Science in Nursing
6. Master of Science in Midwifery
7. PhD in Nursing
8. PhD in Midwifery

Research Groups

The School of Nursing and Midwifery has two (02) research groups:

- i. Nursing Sciences
- ii. Midwifery Sciences

Publications

- i. Nsululu, H. M., Siwale, M. C. and **Kwaleyela, N.C. (2023)**. Determinants of Neonatal Outcomes for Preterm Infants Admitted to the Neonatal Intensive Care Unit at Ndola Teaching Hospital in Ndola District, Zambia. *International*

Journal of Biomedical Engineering and Clinical Science, 9(4), 75-84.
<https://doi.org/10.11648/j.ijbecs.20230904.12>
<http://www.sciencepublishinggroup.com/j/ijbecs>

- ii. Mwaka, C., Mayimbo, S. and **Kwaleyela, C.N. (2023)**. Utilisation of the Partograph by Midwives in Relation to Birth Outcomes at Selected Health Facilities in Solwezi District, Zambia. *EAS Journal of Nursing and Midwifery*, 5(4): 49-54. Doi: 10. 36349/easjnm.2023.v05i04.001
<https://www.easpublisher.com>
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Books

None

Book Chapters

None

Conference Papers/Presentations

1. Dr CN Kwaleyela was a presenter at the African Forum for Research and Education in Health (AFREhealth) 6th Annual Symposium, held physically in Maputo, Mozambique – **Development of Educational Modules in Selected Higher Education Institutions in Zambia: 2023**
2. Dr CN Kwaleyela was a presenter at the International Confederation of Midwives 33rd ICM Triennial Congress, held physically in Bali, Indonesia – **Implementation of the Biopsychosocial Model as a Framework for Provision of Respectful Maternity Care in Zambia: 2023**

Research

None

Consultancy

None

Awards

None

Partnerships and Linkages

During the course of attending the International Confederation of Midwives' 33rd ICM Triennial Congress, held physically in Bali, Indonesia, a partnership between Western Sydney University School of Nursing and Midwifery and Mulungushi University School of Nursing and Midwifery on the BEST-IC, The Birth Experience Study was birthed. This is an international collaboration among 10 Universities across the globe and Mulungushi University is the only one from Africa.

Research Grants/Funded

eMAMA Erasmus+ Programme: This is a three (3) year programme, which commenced on September 2023. It involves a consortium of 9 Universities, namely; Turku University of Applied Sciences (Finland), Riga Technical University (Latvia), University of Zambia (Zambia), Mulungushi University (Zambia), International University of Management (Namibia), University of

Namibia (Namibia), Catholic University of Malawi (Malawi), University of Malawi (Malawi), University of West Attica (Greece). Dr CN Kwaleyela is the responsible person for Work Package 6, which is the mandate for MU whose focus is Developing a Post Graduate Training Programme for Maternal Mental Health in Sub-Saharan Africa. The Grant amount for MU is 86 608,00 €. The other MU staff involved is Mrs Jamia Milanzi Kabungo.

Dr CN Kwaleyela, Mrs HM Simaubi, Mrs JN Banda, Mr Harrison Namoomba, Mrs JM Kabungo and Mrs IL Malata were awarded a one-year K50,000.00, 2023 MU Funded Research Project on Significance of Wild Mushrooms for Female Mushroom Hunters in Rural Zambia

Collaborative Projects

The School continues to collaborate with other institutions of higher learning among them being University of Zambia

Future Research Areas

The school is working on research on women in Zambia's childbirth experiences.

Community Engagement

None



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