RESEARCH PUBLICATIONS AND OTHER ACHIEVEMENTS IN VARIOUS SCHOOLS AND DIRECTORATES AT THE COPPERBELT UNIVERSITY IN 2025

SCHOOL OF BUSINESS

Current Research and Consultancies

1. Sikombe, Shem, Phiri, Joseph, Sichinsambwe, Chanda, Kafwembe, Young, & Simasiku, L. Peter (Ongoing). The Role of HEIs in Green Economy Transition: Sustainable Supply Chains and Livelihoods in the Artisanal and Small-Scale Mining Sector (Senate-Funded Research). Ongoing Research Projects and Initiatives.

2. Shikaputo, C., Siwale, M., Chisanga, S., Mwiya, B. and Sakala, E. (2025). Barriers and Challenges Faced by Women Professional Accountants Vis-à-vis Traditional and Cultural Underpinnings: A Zambian Experience.

3. Shikaputo, C., Shumba, O., Mwiya, B., Habeenzu, S. and Handema, M. (2025 Investigating the Forms, Magnitude and Motivations for Cheating on Examinations by Students in Universities Operating in Zambia.

4. Shikaputo, C., Sinkala, M. and Mwiya, B. (2025). Examining Factors Influencing Whistle-Blowing Intention in the Banking Sector in Kitwe, Zambia.

5. Handema, M., Lungu, J., Shikaputo, C. and Mwansa, C. (2025). The Interaction between Asset Allocation Decisions and Pension Fund Financial Performance in Zambia: Implications for Evidence-Based Management in African Emerging Markets.

6. Handema, M., Lungu, J., Shikaputo, C. and Mwansa, C. (2025). Exploring Factors Influencing Pension Fund Asset Allocation Decisions in Emerging Economies: A Qualitative Inquiry.

7. Mulambya, A.A., Sampa, R.L. and Sinyangwe, M. *Teachers' Perceptions of the Annual Performance Appraisal System and its Influence on Motivation and Performance in Government Secondary Schools in Kitwe, Zambia.*

8. Chinyanta, F., Mulambya, A.A. and Manchisi, R. *The Effect of Quality of Work Life on Job Satisfaction in the Zambia Police Service, Kitwe.*

9. Mulambya, A.A., Glynis, S. and Manchisi, R. *Investigating the Effects of Emotional Intelligence on Job Satisfaction at Kitwe Teaching Hospital.*

10. Mulambya, A.A., Chilonge, L. and Manchisi, R. *Review of the Effects of Human Resource Policies on Employee Performance: The Case of Solwezi Municipal Council.*

11. Mulambya, A.A. and Chisanga, C. *Assessing the Influence of Investor Psychology on Investment Intentions in the Stock Market in Zambia.*

12. Mulambya, A.A. (Ed.), Nsenduluka, E., Banda, M.K., Kamanga, P.S. and Kasanda, E.B. A Textbook of Human Resource Management.

PUBLICATIONS

Books and Book Chapters

1. Sikombe, Shem, Phiri, Maxwell, Zulu-Chisanga, Stella, Manchisi, Roy and Mtonga, Grace (In Press Book Chapter). Faculty Work-Life Balance and Performance in Higher Education Institutions: The Role of Academic Development and Leadership. Springer Nature.

Peer-reviewed journals

1. Sikombe, Shem., Phiri, Joseph., & Mporokoso, Chola. (2025). Innovation Strategies on Competitive Advantage of Insurance Companies: Mediating role of regulatory framework. The Retail and Marketing Review, 21(2), 224-241.

2. Sikombe, Shem (2025). Investigating after-sales service, customer satisfaction and word of mouth nexus: evidence from a branded car dealership. Int. J. Business Forecasting and Marketing Intelligence. DOI: 10.1504/IJBFMI.2023.10061668

3. Mwiya, Bruce., Phiri, Joseph., Bwalya, Justice., Mbandama, Nathan., Mapulanga, Mwanza., Chawala, Moffat., Mpembele, Stephen., Sikombe, Shem., Manchisi, Roy., & Kapila, F. Patrick. (2025). *Examining the adequacy of sustainability and circular economy competencies among business graduates: Evidence from the developing world*. *International Journal of Research and Innovation in Social Science (IJRISS), 9(15).* https://dx.doi.org/10.47772/IJRISS.2025.915EC0063
4. Chanda, H., Mohareb, E., Peters, M. and Harty, C. (2025a). *Community-led Solar Energy Technology Adoption in Rural Zambia: The Role of Observational Learning and Neighbour Influence.* Energy Research and Social Science.

5. Chanda, H., Mohareb, E., Peters, M. and Harty, C. (2025b). *Environmental and Social Impacts of Self-financed Solar PV Adoption in Rural Zambia: Insights from Mopane Worms, Mushrooms, Fishing, Bushmeat and Ethnomedicine.* Energy for Sustainable Development.

6. Chanda, H., Mohareb, E., Peters, M. and Harty, C. (2025c). *Nexus between Solar PV Adoption and Wild Food Sustainability: Case of Income from Honey, Fruits, Traditional Beer and Vegetables in Rural Zambia.* Energy for Sustainable Development.

7. Chanda, H., Mohareb, E., Peters, M. and Harty, C. (2025d). *Exploring the Nexus of Solar Adoption, Sustainability and Rural Community Development through the Role of White Commercial Farmers: The Case of Mkushi, Zambia.* Energy Research and Social Science.

8. Chanda, H., Mohareb, E., Peters, M. and Harty, C. (2025e). *The Solar E-waste Challenge: A Zambian Case Study of Informal Disposal, Counterfeit Technologies and Low Literacy.* Journal of Environmental Management.

9. Chanda, H., Mohareb, E., Peters, M., Harty, C., Green, M., Kasanda, E.B. and Shibata, N. (2025f). *Energy Transitions in Sub-Saharan Africa: Policy Recommendations for Charcoal Trade, Solar PV Adoption and Sustainability in Rural Zambia.* Energy Policy.

10. Chanda, H., Mohareb, E., Peters, M., Harty, C., Green, M., Shibata, N. and Kasanda, E.B. (2025g). *The African Clean Energy Deforestation Paradox: Examining the Sustainability Trade-offs of Rural Solar Energy Expansion in Zambia.* Energy Research and Social Science.

11. Chisanga, S.Z., Nalmpanti, A.D., Boso, N., Hultman, M. and Leonidou, C.N. (2025). *From Rivals to Allies: Building and Benefiting from Coopetition Capability.* Industrial Marketing Management.

12. Kaulungombe, B., Nsenduluka, E. and Banda, M.K. (2025a). *Examining the Mediating Role of Recognition and Appreciation in the Relationship between Transformational Leadership and Internal*

Customer Satisfaction. International Journal of Research and Innovation in Social Sciences, Vol. IX, Issue VI.

13. Kaulungombe, B., Nsenduluka, E. and Banda, M.K. (2025b). *The Influence of Quality of Work Life on Internal Customer Satisfaction: A Comparison of Public and Private Universities.* International Journal of Management and Organizational Research, Vol. 04, Issue 04.

14. Mweene, F., Mulambya, A.A. and Manchisi, R. (2025). *Evaluating Levels of Job Satisfaction among Employees in the Banking Sector: Evidence from Lusaka District.* UNZA Journal.

Conferences & Conference Proceedings

1. Dr Margaret Siwale (28 July to 1 August 2025), 6th Annual Emerging and Established African Researcher Training Academy, University of Pretoria, University of Zululand, Human Science Research Council.

2. Dr Young Kafwembe (December, 2025) Financial Inclusion and Youth Entrepreneurship in a Changing Mining Economy: Evidence from Zambia's Copperbelt Province, The 2nd National Symposium on Research and Innovation, Garden Court, Kitwe.

3. Dr Young Kafwembe (25th June 2025) The Application of Photovoice as a Participatory Research Method: Lessons from Young Entrepreneurs in Zambia, University of Bath, United Kingdom.

4. Sikombe, Shem (2025) attended the Eastern and Southern African Institute (ESAMI) Colloquium in Arusha, Tanzania, from 26th to 28th November 2025. Theme: Research Ecosystems in Africa: Governance, Outputs and Social Impact. Sikombe was a Moderator and Rapporteur: Research Ecosystems in Africa: Governance, Outputs and Social Impact.

5. Sikombe, Shem (2025) Panel Discussion: Ending People/Job Misplacement in Procurement and Stores-Critical to achieving Sustainability and Ethical Behaviours. 13th National Conference. Theme: Sustainable procurement and ethical behaviours for a better tomorrow. Livingstone, Avani –30th June 2025.

Research Grants and Funded Collaborative Projects

1. The Copperbelt University, School of Business, is collaborating with the University of Chemistry and Technology, Prague, in the Czech Republic, on a project titled '2i: Innovation, implementation, and strengthening professional capacities in Zambia in the field of sustainable economic development and supporting circular economy'. Role: "Conducting Needs Assessment and Developing the Curriculum for CDF short Courses" and "Greening the curriculum for selected programmes", embedding Circular Economy (CE) concepts in the modules of the selected programmes (using the EU framework) – 2024/2025. Details of funded projects, sources of funding and status.

SCHOOL OF ENGINEERING

Current Research and Consultancies

1. Kumaran, G.S., Kambole, C., Chilukwa, N.N., Fandamu, H., Mwango, A. and Mumba, K. Funding Strategies for Sustainable and Climate-Resilient Road Infrastructure in Zambia. Research Study Assignment. National Road Fund Agency (NRFA), Zambia. 2025. (Special Project under CBU-NRFA MOU, 2024-2025). PROJECT VALUE: **ZMW 315, 000.00**

2. The **Sustainable Entrepreneurship in Engineering and Business (SEEB)** project: A collaborative initiative between Novia University of Applied Sciences (Novia UAS) in Finland and the Copperbelt University (CBU), School of Engineering. This project aims to enhance the entrepreneurial skills of engineering students and develop innovative solutions to societal challenges, particularly in waste management.

3. **SF-BioVac** (Sustainable Futures - Biogas Value Chain for Circular Economy Competence Growth in Zambia) - This is a project financed by the HEP programme funded by the Ministry of Foreign Affairs of Finland and administered by the Finnish National Agency for Education. The project partners include four Higher Education Institutes from Finland and Zambia: University of Zambia (UNZA), Copperbelt University (CBU), Novia University of Applied Sciences (Novia UAS) and University of Oulu (UOULU).

4. Francis Mulolani, Esau Zulu, Trevor Mwenya, “Energy Efficient Lighting for Clean Energy Transitions in Zambia (ELECT)” 2026 to 2028. Project funded by the European Union through the ERASMUS PLUS programme. Project value: **84,465.80 Euro**.

5. Lightning Impact Study and Design of the Lightning Protection for Itimpi Solar Development Project Phase II (ISDP2). 2025. Consultancy carried out by Esau Zulu and Francis Mulolani for TBEA Zambia Ltd. Consultancy value: **USD 20,000.00**.

Publications

Peer-Reviewed Journal

1. Tembo, Greyard, Esau Zulu, and Lusungu Ndovi. "Water-Energy-Food Nexus Management in Rural Communities: A Comprehensive Review from an Engineering Perspective." In *2025, the 33rd Southern African Universities Power Engineering Conference (SAUPEC)*, pp. 1-6. IEEE, 2025.

2. Koech, Alex K., Gershom Mwandila, Francis Mulolani, and Phenny Mwaanga. "Exploring the anode materials for lithium-ion batteries: a review." *Next Research* 2, no. 3 (2025): 100442.
3. Mutwale, Josephine, Ephraim Zulu, Francis Mulolani, and Sambo Lyson Zulu. "Assessing the Social Factors Affecting Solar Energy Transition in the Mining Sector." *Resources* 15, no. 1 (2026): 17.

4. Lungu, J., Siwale, L., Kashinga, R. J. & Siyingwa, B. (2026). Three-Dimensional CFD Analysis of Combustion and Emission Characteristics of Diesel/n-Butanol Blends Using CONVERGE. *Journal of Power and Energy Engineering*, *14*(01), 1–22. 10.4236/jpee. 2026.141001.

5. Kashinga, R. J., Cao, X., Masseling, L., Vogt, F., Schaaps, N., & Zhao, L. (2025). Effects of heat treatment on microstructure change and mechanical performance of additively manufactured 316L stainless steel stents. Journal of Biomedical Materials Research, Part A. **IP:3.9; SCI; Q1;** https://doi.org/10.1002/jbm.a.37904.

6. Jacques Ndikumana, Rudolph J. Kashinga, G. Senthil Kumaran, Enzoh Langi (2025). An investigation of the mechanical and durability properties of hollow concrete blocks made with copper mine tailings as a partial cement replacement, *Third International Conference on Construction Materials and Structures*, 03-05 July 2025, India.

7. Chinyanta, Kennedy, Musonda E. Kabaso, and Christopher Mulunda. 2025. “Performance analysis of an improved natural drift sawdust stove incorporated with air-varying butterfly valve”. *Journal of Energy Research and Reviews* 17 (11):90-111. https://doi.org/10.9734/jenrr/2025/v17i11473.

8. Sithembinkhosi Siwo Atanase, Taonga Joan Zulu, Ganesan Senthil Kumaran, Abraham Mwango (2025). Proposals for Green Transportation Solutions for Non-Motorized Transportation Along Selected Roads in Kitwe CBD. Civil Engineering and Architecture, 13(5), 3527 - 3545. DOI: 10.13189/cea.2025.130506.

9. N’cube, S.N., Sinyinza, L., Tembo, M.L., Kumaran, G.S. and Mwango, A. (2025). An Investigation into the Highway-Rail At-Grade Intersection Safety—Case Study: Zambia Railways Rail Network. Journal of Building Construction and Planning Research, 13, 133150. https://doi.org/10.4236/jbcpr.2025.133006.

10. Sibongile Namweemba N’cube, Longo Sinyinza, Martin Luke Tembo, Ganesan Senthil Kumaran, Abraham Mwango (2025), “An Investigation into the Highway-Rail At-Grade Intersection Safety—Case Study: Zambia Railways Rail Network”, a paper has been accepted and published in the Journal of Building Construction and Planning Research, Scientific Research Publishing Inc., ISSN Online: 2328-4897, ISSN Print: 2328-4889, DOI: https://doi.org/10.4236/jbcpr.2025.133006.

11. Sithembinkhosi Siwo Atanase*, Taonga Joan Zulu, Ganesan Senthil Kumaran, Abraham Mwango (2025), “Proposals for Green Transportation Solutions for Non-Motorized Transportation Along Selected Roads in Kitwe CBD”, a paper has been accepted and published in the Journal of Civil Engineering and Architecture (Scopus Indexed), 13(5): 3527-3545, 2025, DOI: 10.13189/cea.2025.130506.

12. Hemanth Kumar, Kamalesh Kumar V, Sai Shree R, Karthikeyan K, Senthil Kumaran G (2025), “A Numerical Study on the Seismic Vulnerability of RC Shear Walls with Different Opening Configurations”, a paper has been accepted and will be published in Advances in Civil Engineering, 13(3), 133-150, DOI: 10.1155/adce/5530780.

13. Sibongile Namweemba N’cube, Longo Sinyinza, Martin Luke Tembo, Ganesan Senthil Kumaran and Abraham Mwango (2025), “An Investigation into the Highway Rail At Grade Intersection Safety Case Study: Zambia Railways Rail Networks”, a paper accepted for presentation at 10th International Conference on Sustainable Transportation in Africa (ICTA2025) July 21 – 23, 2025, Theme: Resilient Transport Infrastructure and Improved Accessibility for Sustainable Development at Time Royal Ambassador Hotel, Margibi County (Monrovia), Liberia. All accepted peer-reviewed papers will be published in the ICTA2025 Conference Proceedings with ISBN: 978-99968-0-872-2.

14 Ndikumana Jacques, Rudolph Kashinga, Ganesan Senthil Kumaran and Enzoh Langi (2025), “An Investigation into the Highway Rail at Grade Intersection Safety Case Study: Zambia Railways Rail Networks”, a paper accepted for presentation at the 3rd International Conference on Construction Materials and Structures (ICCMS-25), under the Theme: Synergy of Materials and Structures at the Indian Institute of Technology, Tirupathi, Andhra Pradesh, India, from 3rd-5th July 2025. All accepted peer-reviewed papers will be published in the Scopus-indexed proceedings (in progress)

Conferences and Conference Proceedings

The Department of Civil Engineering and Construction organized a 2nd International Conference on advancements in construction materials (ICACM 2025), *jointly organized by* The Copperbelt University (University in Kitwe, Zambia), Vidya Jyothi Institute of Technology (Hyderabad, India) and National Institute of Technology, Karnataka (Surathkal, India), “**INDO-AFRICAN CONFERENCE SERIES”,** October 30th-31st, 2025, hosted by: CBU.

Technical Report:

1) Chrispin Gogoda, Emeka Oguzie, Julius Butime, Sekove Vodo, Mohd Najib Mohd Hussain, Enzoh Langi, Nawraj Bhattarai, Eng Hilton Chingosho, Gifty Mensah, Ghulam Ali, Khosru Salim, Nithyadharseni Palaniyandy, ‘*Charging Ahead: Battery Ecosystems, Energy Transitions and Electrification in Emerging Economies*’ Faraday Report – March 2026.

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

Current Research and Consultancies

1. Needs assessment study on behalf of KCM as part of the company's Corporate Social Responsibility initiatives (In progress)
2. Preparation of Musical Arts examination papers for the Examinations Council of Zambia
3. Musical Arts Curriculum Review for Curriculum Development Centre
4. *A Textbook of Zambian Human Resource Management* – Ongoing work. Authors: Dr A. Mulambya, Prof. Nsenduluka, Dr P. Kamanga, Dr M.K. Banda and Mr E. Kasanda.
5. Kamanga, P. (2026). *An Analysis of the Impact of an Arbitration Agreement on the Effectiveness of the Arbitral Process in International Commercial Arbitration*
6. Kamanga, P. (2026). *The Effectiveness and Impact of Bylaws on Traders at Chisokone Market in Kitwe.*
7. Fandamu. (2025/2026). *Economic Growth, Fiscal Deficits and Inflation Nexus in the Structural Vector Autoregression (SVAR) Framework: A Zambian Case*
8. Felix Chikumbi and Arno van Nierkerk (2026). *Determinants of business cycles in developing countries.*
9. Chongo, A. (2025/2026). *Assessing the Role of FISP in Enhancing Agricultural Productivity, Climate Resilience and Pest Management.*
10. Chongo, A. (2025/2026). *Mining air pollution & agricultural production in Zambia*.
11. Chishimba, S.K. (2025/2026): *Does Gender Matter in Household Cooking Energy Choice and Expenditure in Zambia.*
12. Chishimba, S.K. (2025/2026): *Electricity Services Availability and its Effect on Children's Study Time Allocation at Household Level in Zambia*.
13. Daka. L. (2025/2026). *Maternal education and child health: Quasi-experimental evidence from Zambia.*
14. Kunda, L. & Chishimba. S. K. (2025/2026). *Competition, Efficiency and Nonlinearities in the Performance of Commercial Banks in Zambia.*
15. Kunda. L & Chishimba (2025/2026). *The Determinants of Commercial Bank Stability in the post-reform period: A panel data analysis.*
16. Samamba, L.T. *Legal Aspects of Judicial Assistance of Self-Represented Litigants*. In Goldschmidt, J (ed.), International Handbook of Judicial Management of Self-Represented Litigants (Loyola University Chicago Press 2026) (Forthcoming).
17. Samamba, L.T. *The Evolution of the Right to Self-Representation and the Right to Counsel in Zambia: A Tortured Transition*. In Goldschmidt, J. (ed.), International Handbook of Judicial Management of Self-Represented Litigants (Loyola University Chicago Press, 2026) (Forthcoming)
18. Musantwe. C. (2025/2026). *Intellectual property infringement of Architectural works in Zambia.*
19. Musantwe. C. (2025/2026). *Gender discrimination and the law: A case Study of the Zambian media workplace.*

20. Samamba, L.T. Extra-Judicial Enforcement of Human Rights as a Tool for Enhancing the Protection of the Rights of Persons with Albinism (2026) 1(2) Journal of Juridical Science, forthcoming.

21. Samamba, L.T. *Climate Change and Universal Access to Health Care for Persons Living with Albinism in Zambia: Legal and Institutional Challenges* (2026) 1(2) Journal of Juridical Science (Forthcoming).

22. Mukonka. C. (2025/2026). *The legal framework on soil contamination and sustainable development in Zambia.*

23. Samamba, L.T. *Legal and Institutional Aspects of Water Resources Management: The Case for a Trichotomous Regulatory Approach.* (2026) 5(1) Mulungushi University Multidisciplinary Journal (Forthcoming).

24. Katebe, C., Bwanali, P., Muleya-Kangwa, and Chikumbi, D. (2025/2026). *Food Insecurity and Coping Strategies Among Low-Income Households in Kitwe.*

25. Nkumbwa, C. (2025/2026*). The Concept of Electronic Evidence in Zambia.*

26. Mumphuka, A. and Tembo, M. (2026). *Navigating the Production of Zambia's Popular Music in the Midst of Electricity Rationing in Kitwe.*

27. Nkumbwa, C. (2025/2026*). The Concept of Geographical Indications as Intellectual Property Rights in Zambia: A Legal Analysis of the Trademarks Act No. 11 of 2023.*

28. Mtonga, M., Kampamba, G. and Ponraj, M. (2026). *Water Governance and Gender-Inclusive Skills Development in the Kafue River Basin in Zambia*.

29. Kampamba, G., Ponraj, M and Mtonga, M. (2026). *Accelerating Biodiversity Protection for Climate Action and Environmental Resilience in the Kafue River Basin, Zambia*

Books and book Chapters

1. Samamba, L. T. Legal and Institutional Aspects of Trade in Titles and Interests in Land: The Case of Jane Mwenya and Another v Paul Kapinga in Kaaba O, Sambo PT and Chungu C (eds), The Supreme Court of Zambia at 50: Looking Back and Going Forward (Juta, 2025).

Peer-Reviewed Journal Publications

1. Chishimba, S. K., & Muchapondwa, E. (2025*). Gendered access to cooking energy solutions under multi-tier frameworks and their welfare effects in Zambia*. Environment and Development Economics, 1–22. https://doi.org/10.1017/s1355770x25100119.

2. Chishimba, S. K., & Muchapondwa, E. (2025). *Credit constraints and willingness to pay for electricity among non-connected households in Zambia. Energy for Sustainable Development,* 85, 101601.

3. Ngoma, C and Kauert, U. "*The Judiciary as an Electoral Arbiter: Judicial Adjudication and the Protection of Electoral Integrity in Democracies*." Lawrit Journal of Law, vol. 5, no. 2, Dec. 2025, pp. 160-168.

4. Phiri, F., Kaale, J., Banda, S., Pansho, M., Kampamba, G. (2025*). "Effects Of Water Quality on Operations of the Hospitality Industry in Kafue Catchment Area*. JUWITA. Vol. 4, No.3, Dec. 2025. pp. 124-135.

5. Samamba, L.T. *The Shifting Tectonics of the Regulation of Transactions in Land: The Case for Sustainable Environmental Management.* (2025) 3(2) Journal of Environmental and Climate Law

Peer-reviewed Conference Papers and Presentations

1. Ngoma, C. and Kauert, U. *The Role of the Judiciary in a Democracy: Judicial Activism in the Age of Environmental Crisis* (Presentation, Southern African Institute for Policy and Research, Lusaka). August 2025.

2. Samamba, L.T. *The Shifting Tectonics of the Regulation of Transactions in Land: The Case for Sustainable Environmental Management.* Zambia Law Development Commission 2nd National Law Conference. 17-18 September 2025 (Mulungushi International Conference, Lusaka, Zambia)

3. Samamba, L.T. *Climate Change and Universal Access to Health Care for Persons Living with Albinism in Zambia: Legal and Institutional Challenges, International Conference on the Rights of Persons with Albinism*. 23-24 October 2025, University of the Free State, Bloemfontein, South Africa.

SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY

Current Research

- Ongoing research projects and initiatives

Project Name:	Funder:	Purpose:
EU Erasmus+ YouthTeamUp	European Union (July 2023 – June 2026)	To train Copperbelt University students in the Internet of Things under Virtual Exchanges.
Grow Green Africa: Building Climate Change Resilience through Smart Green Technologies	European Union (October 2023 – September 2027)	To develop curricula and train postgraduate students in ICT, Smart Green Technologies, and related fields.

Publications

Peer-reviewed Journal

1. Lifelo, Z., Ding, J., Ning, H. and Dhelim, S., 2025. Uncertainty-aware domain incremental learning for cross-domain depression detection. Scientific Reports, 15(1), p.25344.

2. Josephat Kalezhi, Langtone Shumba, Cassava crop disease prediction and localization using object detection, Crop Protection, Volume 187, 2025, 107001, ISSN 0261-2194.

3. George Kalowa, Jameson Mbale, Leveraging Artificial Intelligence to Boost Academic Performance: A Personalized Learning Framework for Struggling Students, Zambia ICT Journal 9 (1), p. 1-7, 2025.

4. Jameson Mbale, Mathews Phiri, Utilizing IoT for Intelligent Agriculture: Advancing Crop Monitoring and Automating Irrigation with Real-Time Data on Environmental Variables, Zambia ICT Journal 9 (1), p. 7-13, 2025.

5. Jameson Mbale, Jeremiah Chellah, Power Allocation for Load Shading Using Cascading Demultiplexer Mechanism (PALSU-CDM), Zambia ICT Journal 9 (1), p. 14-20, 2025.

6. Kalembo, C. and Mbale, J., 2025. Cyber-Physical Framework for Mining Pollution Remediation Using RISC-V and AI in Zambia. Zambia ICT Journal, 9(2), pp.13-17.
7. Chinyama, H.M. and Mbale, J., 2025. Leveraging Biometric Data and Artificial Intelligence to Enhance Beneficiary Identification in Social Cash Transfer Programs: A Case Study of Crystalized Applications in Zambia. Zambia ICT Journal, 9(2), pp.18-23.

8. Kalowa, G. and Mbale, J., 2025. Leveraging Artificial Intelligence to boost Academic performance: A personalized learning framework for struggling students. Zambia ICT Journal, 9(1), pp.1-7.

9. Yolam Zimba, Hastings, M. Libati, Derrick Ntalasha, An Overview of Virtual Machine Monitoring Techniques and Observability. Zambia ICT Journal, 9(1), p. 38-53, 2025.

10. Morris Mkokweza, Santhi Kumaran, George Mufungulwa, G. (2025) A Comparative Study of XBORE and XBOREOPT Hybrid Models for Ore Production Forecasting in the Mining Industry. The IEEE Access Journal, Vol. 13, Journal Article, https://ieeexplore.ieee.org/document/11048604.

11. Siva Asani, Dr Derrick Ntalasha, "Leveraging Big Data Analytics to Enhance Predictive Modelling and Personalized Care for People Living with HIV in Zambia", International Journal of Computer Techniques.

12. Melvin Lumamba, George Mufungulwa. Predicting the Onset of Hypertension Using Deep Learning Models in the Copperbelt Province of Zambia, International Journal of Computer Techniques, ISSN 2394-2231, Volume 12, Issue 5.

13. Mbale, J. and Phiri, M., 2025. Utilizing IoT for Intelligent Agriculture: Advancing Crop Monitoring and Automating Irrigation with Real-Time Data on Environmental Variables. Zambia ICT Journal, 9(1), pp.7-13.

Conferences and Conference Proceedings

1. Kawonga, T., Kalezhi, J. and Zimba, A., 2025, December. Creating Intelligent and Adaptive Systems for Energy–Efficient Smart Home Appliances Using Tiny Machine Learning. In Proceedings of the International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 125-130).

2. Ncube, T., Dlodlo, N., Kalezhi, J., Terzoli, A. (2025) Tiny-CNN: Achieving State-of-the-Art Solar Panel Soiling Detection on Edge Devices through Knowledge Distillation and Quantization, SATNAC 2025, Cape Town, South Africa, 30th November – 3rd December 2025.

3. Mkokweza, M. and Kumaran, S., 2025, November. Smart Mining: Integrating IoT Sensors and Hybrid Machine Learning for Real-Time Monitoring. In 2025, IEEE 7th International Conference on Computing, Communication and Automation (ICCCA) (pp. 1-5).

4. Simwinga, G.M., Mbale, J. and Bwalya, F., 2025, December. Assessing Cybersecurity Risks in E-Commerce: Strategies for Threat Mitigation and Protection. In Proceedings of the International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 233-240).

5. Mwape, J. and Mbale, J., 2025, December. Leveraging Artificial Intelligence for the Enhanced Management of Telecommunications Infrastructure Performance. In Proceedings of the International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 426-431).

6. Kayira, F. and Mbale, J., 2025, December. Enhancing Short-Interval Controls in Open-Pit Mining through the Integration of Business Intelligence Analytics and the Internet of Things: A Case Study of Lumwana Mining Company. In Proceedings of the International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 382-388).

7. Hantuba, C.K. and Mbale, J., 2025, December. Intelligent and Secure Data Access for Non-IT Staff: AI-Powered NLP with Advanced Cybersecurity Controls. In Proceedings of the International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 360-367).

8. Mumpanshya, E. and Mbale, J., 2025, December. Factors Influencing User Adoption of Artificial Intelligence in the Telecommunications Industry: Challenges and Strategic Approaches. In Proceedings of the International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 422-427).

9. Nsontaulwa, J. and Mbale, J., 2025, December. Utilizing Artificial Intelligence to Enhance Personalized Learning at Zambian Universities: A Case Study of NIPA. In Proceedings of International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 456-462).

10. Mbale, J. and Simbeye, N., 2025, December. Development of an Intelligent Fire Prevention System Using IoT-Enabled Sensors and Automated Countermeasures. In Proceedings of the International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 416-421).

11. Mbale, J. and Kunda, S., 2025, December. Fostering Agricultural Transformation in Zambia: Implementing Artificial Intelligence Solutions for Sustainable Farming. In Proceedings of the International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 389-396).

12. Simwinga, G.M., Mbale, J. and Bwalya, F., 2025, December. Exploring the Impact of Cloud Computing on Business Process Management: Opportunities and Challenges. In Proceedings of International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 223-229).

13. Muma, M.E. and Mbale, J., 2025, December. Integrating Augmented Reality into Zambia's Education System: A Case Study of an AR-Based Geometry App and Its Impact on Learning Outcomes. In Proceedings of International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 183-189).

14. Mbale, J. and Chisenga, W., 2025, December. Optimizing Taxi Services through AI-Driven Customer Behaviour Modelling and Geo-fenced Hotspot Recommendations for Drivers. In Proceedings of International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 400-404).

15. Lungu, M. and Mbale, J., 2025, December. Evaluating Security Standards and Frameworks for IoT-Enabled Smart Environments. In Proceedings of the International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 396-401).

16. Ntjanyana, A.M. and Shemi, A.P., 2025, December. AI-POWERED INCIDENT RESPONSE MODEL FOR DIGITAL FINANCE IN ZAMBIA. In Proceedings of International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 190-191).

17. Ng'uni, A., Libati, H.M. and Ntalasha, D., 2025, December. Leveraging Blockchain for Cyber Security in Zambia's ICT Sector: A Study on Data Transaction Integrity and Protection. In Proceedings of International Conference for ICT (ICICT)-Zambia (Vol. 7, No. 1, pp. 441-453).

Research Grants

- Details of funded projects, sources of funding, and status

Project Name:	**Funder:**	**Purpose:**	**Amount:**
EU Erasmus+ YouthTeamUp	European Union (July 2023 – June 2026)	To train Copperbelt University students in the Internet of Things under Virtual Exchanges.	Fifty-Three Thousand Six Hundred and Ninety-One Euros **(€53,691).**
Grow Green Africa: Building Climate Change Resilience through Smart Green Technologies	European Union (October 2023 – September 2027)	To develop curricula and train postgraduate students on ICT and Smart Green Technologies and related fields.	Two Hundred and Forty-Six Thousand Six Hundred and Forty-Five Euros **(€246,645).**

SCHOOL OF MATHEMATICS AND NATURAL SCIENCES

PUBICATIONS

Books and Book Chapters

1. Sifanu, M.; Taylor, T.K., Kalebaila, K.K.; Hayumbu, P., Nabiwa, L.; Linde, S.J.L., & Mweshi, M. Proposed use of Wood Ash Water as a Remedy to Reduce Respirable Dust Exposure in a Copper Mine**.** *Disease and Health: Research Developments, Vol. 8.* ***Book Chapter****.* DOI: 10.9734/bpi/dhrd/v8/4892

2. Dadi, M. (2025). Air and Water Pollution: Sources, Effects, Regulatory Frameworks, Mitigations, Solutions, Future Prospects, and Challenges. In: Gautam, S., Joshi, S.K., Ambade, B. (eds.), Blue Sky, Blue Water. Springer, Cham. https://doi.org/10.1007/978-3-031-82559-0_2

Peer-reviewed Journal Publications

1. Kasimbo, Mukanzala, **Todd Johnson**, Theodore M. Mwamba, Agnes Uwimbabazi, and Stephen Syampungani. **2025**. Macrofauna-environment interactions and their potential in restoring degraded landscapes in the context of Sub-Saharan Africa: A review of current knowledge. Scientific African: e03044.

2. Mapiki, Prudence, Ester Laiser, Joyce Mufungwe, Misheck Shawa, Mazuba Siamujompa, **Todd Johnson**, Ngawo Namukonde, Phenny Mwaanga, and Bernard Mudenda Hang'ombe. **2025**. Bacteriological quality of fresh and processed black soldier fly Hermetia illucens larvae reared on chicken manure in Kitwe, Zambia. Microbiology Spectrum: e00570-24.

3. Mufungwe, J., Namukonde, N., Mwaanga, P., **Johnson, T**., Siamujompa, M., Mwango, N.C., Ngoma, J. and Hang'ombe, B.M., **2025**. Critical safety concerns in the production of black soldier fly (Hermetia illucens) larvae in Africa. Discover Food. *5*(1), p.74.

4. Eunice Zulu, **Subbaiya Ramasamy***, K. Sikhwivhilu, Stephen Syampungani. “A Comprehensive Review of Recent Advances in Membrane Innovations for Efficient Heavy Metal Removal from Mine Effluents” ***Scientific African,*** March **(2025)** e02510.

5. Murali Dadi, Workson Siwale, Francis Munalula, Sai Nandhini Ravi, Jhonnah Mundike, **Subbaiya Ramasamy**, Charles Mulenga, 2025. A comprehensive review of advances in bioenergy, including emerging trends and future directions. Discover Energy 5 (1), 26.

6. Anguelov, Roumen, Charlise Basson, Priyesh Bipath, Yvette Hlophe, Carolyn Nadasen, Avulundiah Edwin Phiri, and June Serem. "Constructing mathematical models from small data sets: Cell-viability model of melanoma under inhibition by MAZ-51." *Mathematical Modelling of Natural Phenomena* 20 (2025): 29.

7. Hlophe, Y. N., C. Basson, S. D. Tatchum, E. Phiri, R. Anguelov, P. Bipath, and J. Serem. "In vitro Investigation of L-Kynurenine and Quinolinic Acid on Melanoma and Endothelioma Cells, and In Vivo Evaluation of L-Kynurenine Combined with CTCE-9908 in C57BL/6 Mice." *EJC Skin Cancer* 3 (2025).

8. Phiri, Avulundiah Edwin, Muleya Siakabeya, and Veronica Mtonga. "Pandemic-associated disruption of seasonal mortality patterns in Lusaka, Zambia." *BMJ Global Health* 11.3 (2026): e021622.

9. Phiri, Avulundiah Edwin. "Provincial stratification and equity-weighted cost-effectiveness of malaria vaccines in Zambia under climate variability." *BMJ Public Health* 4, no. 1 (2026).

10. Cephas, Kunda Allan, Ng'ambi Richard, and Sinyangwe Maureen Kanchebele. "Implementation Gaps in the Competence-Based Curriculum for Mathematics and Science Subjects: Evidence from Secondary Schools in Kabwe District, Zambia." *International Journal of Research and Innovation in Social Science (IJRISS)* 10.1 (2026).

11. Nayar, Helena, and Patrick Azere Phiri. "Investigation of heat and mass transfer of free convective MHD flow along a vertical plate in a porous medium using the new modified differential transform-decomposition method." *Results in Engineering* 25 (2025): 104083.

12. Sampa, R. L., & Musonda, A. (2025). Integrating a familiar language with the medium of instruction in the learning of mathematics at the school certificate level. *Asian Journal for Mathematics Education*, *4*(3), 332-347.

13. Mutale, J., & Musonda, A. (2025). Navigating the Liminal Space: Strategies to Support Learners in Calculus at Chishinga Secondary School in Kawambwa District. *Journal of Education and Practice,* 16(9), 77-87.

14. Kuthbert Njappavu, Boby Samuel, Danny Mutambo, Subbaiya Ramasamy (2025). Comparison of Active Learning and Traditional Lecture Method in Developing Biology Practical Skills on Learners: A Case of Mukinge Girls Secondary, Zambia. Journal of Education and Practice, 16(11), 2025.

15. Rex L Sampa, Allan Musonda (2025). Integrating a familiar language with the medium of instruction in learning mathematics at the school certificate level, Asian Journal for Mathematics Education, 2025, Vol. 4 Issue 3, 332-347, SAGE Publications 2025/9.

16. Daniel L Mpolomoka, Musonda Luchembe, Christine Mushibwe, Moono Muvombo, Moses Changala, Rex L Sampa, Selina Banda (2025). Artificial Intelligence-related Plagiarism in Education: A System Review. European Journal of Education Studies 12 4 2025/5/1.

17. Bitwell Chibuye, Indra Sen Singh, Luke Chimuka, Mokgaetji Monyai, Maseka Kenneth Kakoma, Computational insights into the anti-diabetic potential of Albizia antunesiana (Mimosaceae) metabolites: A molecular docking, drug-likeness and ADMET analysis, Results in Chemistry, Volume 16, 2025, 102422, ISSN 2211-7156, https://doi.org/10.1016/j.rechem.2025.102422

18. Bitwell Chibuye, Indra Sen Singh, Luke Chimuka, Mokgaetji Monyai, Nutrients and toxic heavy metals in Strychnos cocculoides (Loranthaceae): Implications for traditional medicine, Toxicology Reports, Volume 14, 2025, 102050, ISSN 2214-7500, https://doi.org/10.1016/j.toxrep.2025.102050.
19. Mohammed Danish, Tanweer Ahmad, Mohd Gulfam Alam, Mohamad Shazeli Che Zain, Mohd Hazim Mohamad Amini, Selvaraj Mohana Roopan, Muzafar Bin Zulkifli, Optimization of adsorption parameters of bromocresol green dye and Acacia mangium wood activated carbon: Kinetics, thermodynamics, isotherm, and surface interaction mechanism, Surface and Interfaces 75 (2025) 107798.
20. Linde S.J.L., Sifanu M., Nabiwa L., Hayumbu P. **(2025).** Increasing capacity for occupational hygiene in Zambia. Occup Health Southern Afr. 2025;31(3):x-x. doi: 10.62380/ohsa.2025.31.3.5
21. Dadi, M., Siwale, W., Munalula, F. et al. A comprehensive review of Advances in bioenergy, including emerging trends and future directions. Discover Energy 5, 26 (2025). https://doi.org/10.1007/s43937-025-00095-3.
22. Nabiwa L., Simfukwe J., Hayumbu P, Masekameni D.M., Mumba M., Sifanu M., Linde S.J.L. (**2025**). Quantification of Respirable Dust Concentration at an Underground Copper Mine Using a Personal Optical Particle Counter, ACS Chemical Health & Safety, 32 (3), 326-335. https://doi.org/10.1021/acs.chas.5c00037

Peer-reviewed Conference Papers and Presentations

1. Banda, B., & Banda, A. *CAF-Africa: Building an African-Owned Competence-Based Assessment Framework: You Cannot Live a Borrowed Life.* Paper presented at the 22nd Conference for Mathematics, Science, and Technology Education in Africa (COMSTEDA 22), Lilongwe, Malawi, November 12 - 14, 2025.

2. Mugala, G., & Banda, A. *Enhancing mathematics teachers' pedagogical practices through technology integration.* Paper presented at the 22nd Conference for Mathematics, Science, and Technology Education in Africa (COMSTEDA 22), Lilongwe, Malawi, November 12 - 14, 2025.

3. Banda, A., Kalunga, F., & Murali, D. *Impact of integrating AI-Powered tools in teaching biology on Grade 12 learners' performance: A case of Nakonde Secondary School.* Paper presented at the 50th annual conference for the International Association for Educational Assessment (IAEA), Livingstone, Zambia, September 21 - 25, 2025.

4. Mugala, G., Banda, A., & Lupupa, M. *Technology-enhanced teaching of geometric transformations in selected secondary schools of Chama District, Zambia*. Paper presented at the 50th annual conference of the International Association for Educational Assessment (IAEA), Livingstone, Zambia, September 21 - 25, 2025.

5. Chabalengula, V. M. & Banda, A. *ICT Integration in Zambian High School Computer Science Curriculum.* Paper presentation at the National Association of Research in Science Teaching (NARST). National Harbour, Maryland (Washington, DC area). March 23-26, 2025.

6. Musonda, A., & Musenge, C. (2025, September). Mathematics teachers' perceptions on the introduction of school-based assessment in mathematics: A case of selected secondary schools in Kitwe District, Zambia [Conference presentation]. 50th International Association for Educational Assessment Annual Conference, Livingstone, Zambia.

7. Mukanzala Kasimbo, Todd Johnson, Theodore M. Mwamba, Stephen Syampungani. Soil Macrofauna Diversity and Ecological Functionality in a Mine Tailings Dam on the Zambian Copperbelt. 2nd National Symposium on Research and Innovation. 2–4 December 2025, Kitwe, Zambia.

8. Mary Mulenga, Concillia Monde, Todd Johnson, Kennedy O. Ouma, Stephen Syampungani. Microalgal Diversity Changes as a Bioindicator of Aquatic Metal Pollution on the Central African Copperbelt. 2nd National Symposium on Research and Innovation. 2–4 December 2025, Kitwe, Zambia.

9. Clara Nakamba, Subbaiya Ramasamy, Todd Johnson, Mohanadoss Ponraj, Bernard Mudenda Hang'ombe. Isolation and Characterization of Thermophilic Bacteria from Bwanda Hot Springs in Lochinvar National Park, Zambia. 2nd National Symposium on Research and Innovation. 2–4 December 2025, Kitwe, Zambia.

10. Mukanzala Kasimbo, Todd Johnson, Theodore M. Mwamba, Stephen Syampungani. Composition and abundance of soil macrofauna in the Uchi Tailings Storage Facility of the Zambia Copperbelt. The 2025 National Science Week. November 26-28, 2025, Lusaka, Zambia. (Poster presentation).

11. Mukanzala Kasimbo, Todd Johnson, Theodore M. Mwamba, Stephen Syampungani. Potential application of soil macrofauna in restoring mine wastelands in sub-Saharan Africa. International Symposium on Mine Waste Management. October 1-3, 2025, Kitwe, Zambia. (Conference presentation).

12. Agnes Uwimbabazi, Subbaiya Ramasamy, Theodore M. Mwamba and Stephen Syampungani. Variation in Soil Microbial Parameters across Copper Mine Tailings Soils in Kitwe, for Eco-

remediation Prospects. 2nd National Symposium on Research and Innovation. 2–4 December 2025, Kitwe, Zambia.

13. Eunice Zulu, Subbaiya Ramasamy, K. Sikhwivhilu, Stephen Syampungani. The potential of hybrid membrane systems in Mine effluents. A pathway to sustainable effluent recycling. Smart Materials Conference. 3-5 December, 2025, South Africa.

14. Dr Joseph Simfukwe, Mr Prospery Simpemba; PAPSSN 1 Project Closure Meeting, Addis Ababa, Ethiopia, 14-16 January 2025

15. Dr Saul Phiri, Mr Chengo Musonda, DARA Annual Networking Meeting (Conference), February 2025, South Africa.

16. Mr Chengo Musonda, Dr Saul Phiri, DARA Astronomy Data Analysis Workshop, April 2025, University of Zambia, Lusaka, Zambia

17. Mr Dennis Silungwe, Dr Saul Phiri, AFAS Annual Conference, March 2025, South Africa.

18. Prof. Kenneth Maseka, Dr Joseph Simfukwe, Mr Prospery Simpemba, Dr Saul Phiri, Mr Dennis Silungwe, Dr Alok Srivastava, Mr Jackson Siantuba, TART Workshop, Copperbelt University Kitwe, Zambia, June 2025

19. Dr Saul Phiri, European Astronomy Society Annual Conference, June 2025, Astra, Ireland.

20. Dr Saul Phiri, Mr Prospery Simpemba, Mr Jackson Siantuba, Astrolab Conference, August 2025, South Africa.

21. Dr Saul Phiri, Mr Prospery Simpemba, Mr Jackson Siantuba, Astrotourism Workshop, October 2025, South Africa.

22. Dr Saul Phiri, Mr. Prospery Simpemba, SARAO Annual Conference, November 2025, Cape Town, South Africa

23. Dr Joseph Simfukwe, Fast4Future Academic mobility, 26th Oct to 15th November 2025, University of Nigeria, Nsukka, Nigeria.

MICHAEL CHILUFYA SATA SCHOOL OF MEDICINE

Current Research Activities

Ongoing research projects include:

1. Implementation Science for NCDs (IS4NCDs) — evaluating modules for capacity building in IS education to address NCD prevention and management in Africa. Consortium: University Medical Centre (UMC) Utrecht, Institute of Tropical Medicine, CBU, UNZA, Stellenbosch, Ludwig Maximilian Munich, University of the Witwatersrand, Johannesburg.

2. Research Capacity to Investigate the Practice of Geophagy Among Pregnant Mothers and Impacts on Children's Neurodevelopment — collaborative research involving CBU, TDRC and Oregon State University, USA.

3. Additional emerging work under the Centre of Excellence in Infection, Brain and Molecular Health (CoE-IBMH) focuses on:

4. Medicinal plant bioactives, microbiome–brain interactions, and the molecular mechanisms underlying infection and stress.

5. Elucidating the mechanisms of action of medicinal plants used in Zambia in the treatment of opportunistic infections in people living with human immunodeficiency virus.

6. The association between oral health status and Nutrition among Primary and secondary school children at Mwabombeni Primary School in Ndola, Dental Clinical Sciences-SOM in collaboration with Nebraska University.

7. Co-designing and Piloting a Mobile Intervention for Low Back Pain in Rural Zambia. UNZA DRD 2026 Seed Grant Application.

Project / Study Title	Lead Researcher	Collaborating Institutions	Status (Ongoing / Planned)	Department
Emerging research under the Centre of Excellence in Infection, Brain and Molecular Health (CoE-IBMH): Medicinal plant bioactives, microbiome–brain interactions, and molecular mechanisms of infection and stress	Dr. Namaunga Kasumu Chisompola / Dr. Ngala Elvis Mbiydzenyuy / Dr. Kwangu Ngwenya	OWSD/NSTC	Ongoing	Basic Sciences
Implementation Science for NCDs (IS4NCDs) — evaluating modules for capacity building in IS education to address NCD prevention and management in Africa	CBU lead Prof. David Mulenga/Dr. Mwila Hilton Mwaba/Dr. Tatondeka Herbert Nyirenda	UMC Utrecht; Institute of Tropical Medicine; UNZA; Stellenbosch; Ludwig Maximilian Munich; University of the Witwatersrand	Ongoing	Public Health Sciences
Research Capacity to Investigate the Practice of Geophagy Among Pregnant Mothers and Impacts on Children's Neurodevelopment	Prof. Seter Siziya/ Prof. David Mulenga	TDRC; Oregon State University, USA	Ongoing	Public Health Sciences
The association between oral health status and Nutrition among Primary and secondary school children at Mwabombeni Primary School in Ndola	Dr C.H Mumena, Dr R.M Sasi, Dr M.H Majambo, Dr C. Mwinga, Dr M.S Mlawa	Nebraska	Ongoing	Dental Clinical Sciences

Future Research Plans

Planned research directions include:

1. Collaborative research with pharmaceutical companies in drug development
2. Digital health and telemedicine research
3. Climate change and health impact studies
4. Strengthening interdisciplinary research collaborations
5. Scaling community-based health interventions
6. Orthopaedic Trauma in Orthopaedic Trauma with the Foundations of Global Health in Conjunction with the International Orthopaedic Trauma Collaborative (University of Kansas Medical Centre, USA)
7. Proposed development of an Exoskeleton/ Robot Arm to aid Cerebral Palsy Management in Children
8. Designing and Piloting a Mobile Intervention for Low Back Pain Management in the Mining Industry in Zambia.

Research Grants and Funded Projects

Project Title	Principal Investigator(s)	Funder	Amount (currency)	Duration (start – end)	Department
IS4NCDs — Implementation Science for NCDs	CBU lead: Prof. David Mulenga/Dr. Mwila Hilton Mwaba/Dr. Tatondeka Herbert Nyirenda	International (consortium)	**ZMW 1,663,000**	Jan, 2025 – Dec 2027	Public Health Sciences
Research Capacity to Investigate the Practice of Geophagy Among Pregnant Mothers and Impacts on Children's Neurodevelopment	Prof. Seter Siziya/Prof. David Mulenga	Collaborative (CBU–TDRC–Oregon State)	**ZMW 500,000**	[Duration to confirm]	Public Health Sciences
Mechanisms of Action of Medicinal Plants Used in Zambia for Treating Opportunistic Infections in HIV Patients	Dr. Namaunga Kasumu Chisompola; Dr. Ngala Elvis Mbiydzenyuy	Organization for Women in Science for the Developing World (OWSD)	**ZMW 800,000 / USD 50,000**		Basic Sciences
Scientific Rigour, Reproducibility, and Translational Challenges in Disease Models Research (Symposium)	Dr. Ngala Elvis Mbiydzenyuy	Company of Biologists	**£400**	Sept 2026	Basic Sciences

Peer-reviewed Journal Publications

Author(s)	Year	Title	Journal / Source	DOI / Link	Department
Nyirenda HT, Mulenga D, Nyambe-Silavwe H	2025	Contextual determinants of under-five malnutrition in mining communities: a critical review of nutrition	Frontiers in Public Health, 13:1482200	doi.org/10.3389/fpubh.2025.1482200	Public Health Sciences

Author(s)	Year	Title	Journal / Source	DOI / Link	Department
		interventions for optimal impact			
Sinzala C, Mulenga D, Kumari N	2025	The Effects of Insecticide-Treated Nets (ITNs) on Plasmodium falciparum Infections in Kalumbila District, Zambia	IJSAT, 16(1)	doi.org/10.71097/IJSAT.v16. i1.2143	Public Health Sciences
Nyirenda HT, Mulenga D, Nyambe-Silavwe H	2025	Leveraging culinary nutrition interventions and contextual factors to combat child growth failure in mining communities for maximum impact	Clinical Nutrition Open Science, 59, 87–97	doi.org/10.1016/j.nutos.2024.12.005	Public Health Sciences
Mohdkhairi M, Mulenga D	2025	Factors associated with e-cigarette initiation and transition to conventional cigarettes among adolescents in Malaysia: a scoping review	Discover Public Health, 22(1), 415	doi.org/10.1186/s12982-025-00842-w	Public Health Sciences
Nyirenda HT, Mulenga D, Nyambe-Silavwe H	2025	Investigating the contextual drivers and factors impacting child growth failure in mining communities: A Structural Equation Modelling approach	Public Health, 245, 105801	doi.org/10.1016/j.puhe.2025.105801	Public Health Sciences
Ngala, E.M., Hemmings, S.M.J., Womersley, J.S., Shabangu, T.W., Qulu, L.A.	2026	Sexual aggression and prenatal stress lead to poor maternal care and aggressive behaviour in male Wistar rat offspring	IBRO Neuroscience Reports, 20:332–351	doi.org/10.1016/j.ibneur.2026.02.012	Basic Sciences
Ngala, E.M., Hemmings, S.M.J., Womersley, J.S., Willmer, T.,	2026	Epigenetic regulation of aggression-linked genes following	Neuroscience	Doi.org/10.1016/j.neuroscience.2026.01.033	Basic Sciences

Author(s)	Year	Title	Journal / Source	DOI / Link	Department
Shabangu, T.W., Qulu-Appiah, L.		prenatal stress enhances risk for sexual aggression in male rat offspring.			
Sinkala, A., Mbiydzenyuy, N.E., Chanda, B.	2026	Persistent Virologic Failure and Dynamic Genotypic Resistance Shifts in a Perinatally HIV-Infected Adolescent	Medical Journal of Zambia	doi.org/10.55320/mjz.53.1.872	Basic Sciences/Clinical Sciences
Mbiydzenyuy, N.E., Zulu, M.	2025	Of rats and humans: rethinking physiological boundaries	Theoretical Medicine and Bioethics	doi.org/10.1007/s11017-025-09733-2	Basic Sciences
Ngala, M.E., Hemmings, S.M.J., Womersley, J.S., et al.	2025	Social isolation induces sexually aggressive behaviour in male Wistar rats	BMC Neuroscience	doi.org/10.1186/s12868-025-00932-0	Basic Sciences
Mukanga, B., Taylor, M. & Dlamini, S.B.	2026	Adolescents' engagement with comprehensive sexuality education in Zambian schools: implications for strengthening responses to risky sexual behaviours	BMC Public Health, **26**, 917	https://doi.org/10.1186/s12889-026-26607-x	Public Health
Theresa Musa Hassab, Audrey Hamachila, Aubrey Chichonyi, Kalungia Norman Nyazema, Moses Mukosha Chikafuna Banda 3 and Derick Munkombwe	2025	Determinants of Tuberculosis Treatment Outcomes in Patients with TB/HIV Co-Infection During Tuberculosis Treatment at Selected Level One Hospitals in Lusaka, Zambia	Antibiotics, 14, 664	https://doi.org/10.3390/antibiotics14070664	Public Health Sciences
M.H. Majambo; C.H. Mumena; R.M. Sasi et al.	2025	Evaluation of Oral Health Practitioners and Facilities on Preparedness for Medical emergencies in	Rwanda Medical Journal	https://dx.doi.org/10.4314/rmj.v82i1.8.	Dental Clinical Sciences

Author(s)	Year	Title	Journal / Source	DOI / Link	Department
		Dental practices, Ndola			
Mumena, C.H., Kjeller, G., Hasséus, B. et al.	2025	A community cross-sectional study on oral health status among rural and urban inhabitants of Zambia.	Sci Rep 15	https://doi.org/10.1038/s41598-025-24683-4	Dental Clinical Sciences
Venkatajothi R, Murugan A, Mwanakasale V, Balakrishnan S, Kartheek RB, Chaithanya A	2025	Phytochemical constituents and assessment of crude extracts from Ipomoea obscura for Antioxidant, Anti-inflammatory, antibacterial, and Anti-cancer activities.	Res J Pharm Tech	https://doi.org/10.52711/0974-360X.2025.00329	Basic Sciences
Venkatajothi R, Mary RA, Santhosh V, Balakrishnan S, Yokesh V	2026	Discovery of Novel Peptides Targeting Anopheles Gambiae Using in Silico Approaches.	Int J Drug Deliv Technol	https://doi.org/10.25258/ijddt.16.3.17	Basic Sciences
Mwanakasale, V., Balapala, K. R., & Kalolekesha, M. C.	2025	MayerRokitansky-Küster-Hauser (MRKH) Syndrome Presenting with Condylomata Acuminata in a 28-Year-Old Zambian Woman: A Case Report	British Journal of Healthcare and Medical Research, Vol - 12(02). 58-61.	Case report https://doi.org/10.14738/bjhr.1202.18386	Basic sciences
Kartheek R.B., Victor Mwanakasale et al., 2025	2025	Impact of ageing on orthostatic hypotension and mental health disorders: a cross-sectional study	**Romanian Medical Journal**, Volume 72, Issue 1, 2025, ISSN 1220-5478, e-ISSN 2069-606X	https://doi.org/10.37897/RMJ.2025.1.7	Basic sciences
Mulenga P, Mufwambi W, Mwaba M, Zulu M, Tembo R, Mwaba F, Mutoya N, Chimbala AM, Mwanza B, Musonda MS, Kasanga M,	2025	Knowledge, Attitudes, and Uptake of the Human Papillomavirus Vaccine among Pharmacy Students at the University of Zambia:	Open Journal of Obstetrics and Gynaecology.		Public Health

Author(s)	Year	Title	Journal / Source	DOI / Link	Department
Mugenyi N, **Daka V**, Mudenda S		Opportunities to Improve Vaccine Uptake.			
Mudenda S, **Daka V**, Kamayani M, Mohamed S, Kasanga M, Mufwambi W	2025	The Effect of Educational Intervention on Healthcare Workers&#8217 Awareness and Knowledge of Antimicrobial Resistance, Stewardship, and Surveillance: Opportunities for Antimicrobial and Diagnostic Stewardship	Pharmacol & Pharm		Public Health
Mudenda S, Hakayuwa CM, Lubanga AF, Kasanga M, **Daka V**, Salachi KI, Mwaba M, Chileshe C, Champo M, Kamayani M, Harawa G, Bwanali A, Sinyawa T, Hangoma J, Simweene C, Kanaan MHG, Mugenyi N, Chizimu JY, Mohamed S, Mufwambi W, Muma JB	2025	Global Antimicrobial Stewardship, Surveillance, and Infection Prevention and Control Programs: Leveraging One Health, Nanotechnology, and Artificial Intelligence to Combat Antimicrobial Resistance in a Climate-Impacted World	Pharmacol & Pharm		Public Health
Shempela, D.M, Sikalima J, Muleya W, **Daka V,** Kasanga M, Sandala D, Chipango C, Mutinta C, Mudenda S, Mkandawire E, Siwila J, Mwenda M, Sinyange N, Simulundu E, Sichinga K, Saasa N, Chilengi R	2025	Molecular detection and phylogenetic characterisation of Salivirus genotype A2 in wastewater from Zambia's Copperbelt and Eastern Provinces	Health Press		Public Health
Mwale RS, **Daka V**, Mufwambi W, Chimbala AM, Mwanza B, Mwaba M,	2025	Knowledge, Attitudes, and Practices of Pharmacy Professionals on Artificial	Middle East J Appl Sci Techno		Public Health

Author(s)	Year	Title	Journal / Source	DOI / Link	Department
Kasanga M, Mudenda S		Intelligence: Findings and Implications in Zambia			
Sibanda N, **Daka V**, **Mfune RL**, Mutanekelwa I, Hakayuwa CM, Mudenda S, Chinkoyo S, Gwasupika J, Zulu M	2025	Maternal and Fetal Characteristics of Stillbirths among Deliveries at Ndola Teaching Hospital, Ndola, Zambia	Open J Obstet Gynecol		Public Health
Mudenda S, Chizimu JY, **Daka V**, Hangoma J, Mwangilwa K, Gardner P, Chileshe C, Sinyawa T, Muhimba Z, Chileshe C, Mwadetsa SD, O-Tipo S, Chanda D, Kasanga M, Mainda G, Mufwambi W, Mukale S, Bambala A, Goma F, Kalungia AC, Suzuki Y, Godman B, Muma JB, Chilengi R	2025	Antimicrobial Stewardship Program Implementation, Perceptions, and Barriers in Zambia: A Cross-Sectional Study Among Healthcare Professionals	Antibiotics		Public Health
Chileshe C, Goma F, Mudenda NB, Mudenda S, Sinyawa T, Hadunka M, Mainda G, Muyamwa N, Mubamba C, Mtui Malamsha NJ, Filippini SP, Kasanga M, **Daka V**, Mufwambi W, Siame A, Kalungia AC, Muhimba Z, Mukuma M, Mwadesta SD, O-Tipo S, Hangoma J, Muma JB, Chizimu JY, Maseka C, Chilengi R	2025	Development of the Zambian Standard Treatment Guidelines in the Animal Health Sector: A Key Step in Advancing Antimicrobial Stewardship	Antibiotics		Public Health

Author(s)	Year	Title	Journal / Source	DOI / Link	Department
Chizimu JY, Mudenda S, **Daka V**, Mufwambi W, Muhimba Z, Yamba K, Shawa M, Mwangilwa K, Hangoma J, Fwoloshi S, Siame A, Kaunda K, Bambala A, Kapolowe K, Gardner PN, Chanda D, Doreen S, Chileshe C, Simujayang`ombe P, Mudenda NB, Sakalimbwe L, Kalungia AC, Chileshe C, Sinyawa T, Kasanga M, Chanda R, Mukale S, O-Tipo S, Wesangula E, Sialubanje C, Muwonge A, Simwinji F, Nakajima C, Masaninga F, Goma F, Sinyange N, Suzuki Y, Muma JB, Chilengi R	2025	Impact of Multidisciplinary-Led Implementation of Antimicrobial Stewardship Programs in Zambia: Findings and Implications.	Antibiotics		Public Health
Mudenda S, Chizimu JY, **Daka V**, Kasanga M, Mufwambi W, Mwangilwa K, Hangoma J, Gardner P, Chileshe C, Mudenda NB, Sinyawa T, Siame A, Hadunka M, Simwinji FM, Kaunda K, Chibi M, Muhimba Z, Jere E, Siyanga M, Lisulo P, Masaninga F, Mukale S, Bambala A, Shawa M, Chileshe C, Chibwe B, Mukuma M, Phiri BSJ, Mainda G,	2025	Antimicrobial Consumption and Utilisation in Zambia: Results from the Analysis of National Data for the Human and Animal Health Sectors	Antibiotics		Public Health

Author(s)	Year	Title	Journal / Source	DOI / Link	Department
Suzuki Y, Goma F, Muma JB, Chilengi R					
Chizimu JY, Kalungia AC, Mudenda S, Muhimba Z, Lukwesa C, Mufwambi W, Siame A, Mwangilwa K, Gardner P, Hangoma J, **Daka V**, Chileshe C, Mudenda NB, Kasanga M, Shawa M, Chambaro H, Chanda D, Sinyawa T, Chibwe B, Kaunda K, Yamba K, Shikanga OT, Masaninga F, Chibi M, Mwadetsa SD, Shempela DM, Hadunka MA, Mukale S, Bambala A, Mutila M, Sakalimbwe L, Simwinji FM, Mainda G, Nakajima C, Nakazwe R, Goma F, Sinyange N, Suzuki Y, Muma JB, Chilengi R	2025	Diagnostic Stewardship Trends and Antimicrobial Resistance Profiles of Bacteria Isolated in Zambia: A Five-Year Retrospective Study (2020–2024)	Antibiotics		Public Health
Martinez-Vega R, Chaponda M, Mousa A, Gwasupika J, Chaponda EB, **Daka V**, Mwanza S, Chipunga M, Beshir KB, Chopo-Pizarro A, Kaur H, Okell L, Hansson H, Hocke EF, Alifrangis M, Gosling R, Roper C, Sutherland C, Chico RM	2025	Parasite clearance and protection from Plasmodium falciparum infection (PCPI): a two-arm, parallel, double-blinded, placebo-controlled, randomised trial of presumptive sulfadoxine-pyrimethamine versus artesunate monotherapy among asymptomatic children 3	BMC Infect Dis		Public Health

Author(s)	Year	Title	Journal / Source	DOI / Link	Department
Mambote AM, **Mfune RL, Daka V**, Mubanga M, Mubiana M, Bumbangi FN, Chanda C, Muma JB	2025	Seroprevalence and risk factors of Brucella antibodies among patients seeking medical attention at health facilities in selected districts of Western Province in Zambia	Afr J Lab Med		
Chongwe E, Mutanekelwa I, Gwasupika J, **Mfune RL**, Chikwanda E, Mukanga B, Kasanga M, Mudenda S, Mweene M, Chinkoyo S, Zulu M, **Daka V**	2025	The Prevalence of Vacuum-Assisted Vaginal Delivery and Its Associated Short-Term Maternal and Foetal Outcomes at a Tertiary Hospital in the Copperbelt Province, Zambia	Open J Obstet Gynecol		Public Health
Elijah K, Mabvuto Z, Victor D, Harry C, Mespa M, Sebastian C, Siziya S	2025	Evaluating Visual Inspection with Acetic Acid and Human Papilloma Virus Tests for Cervical Cancer Screening in Ndola District, Zambia: A Focus on Positive Predictive Value	ARC J Gynecol Obstet		
Kanyika A, Mudenda S, **Daka V**, Kaonga N, Mbao C, Mwaba DK, Matafwali SK	2025	Effectiveness of Logistics Management Information System (LMIS) in Improving the Availability of Essential Medicines and Medical Supplies in Public Hospitals in Zambia: A Cross-Sectional Study	Pharmacol & Pharm		Public Health
Gwasupika J, Hamer DH, **Daka V**, Chikwanda E, Mwakazanga D,	2025	Antibiotic prescription patterns and associated symptoms in children living	PLoS One		Public Health

Author(s)	Year	Title	Journal / Source	DOI / Link	Department
Mfune RL, Jacobs C.		with HIV at Arthur Davison Children's Hospital in Ndola, Zambia			
Hamwata W, Hazyondo M, **Daka V**, Muleba M, Shimaponda-Mataa NM	2025	Implications for malaria transmission: A cross-sectional study on the bionomics and susceptibility of local malaria vectors in urban and periurban settings of Ndola district	BMJ Open		Public Health

Books and Book Chapters

Author(s) / Editor(s)	Title (Book or Chapter)	Publisher	Year & ISBN/DOI	Department
Mulenga, D.	Understanding Public Health in Africa: Issues and Cases (1st ed.)	Routledge	2025; doi.org/10.4324/9781003571483	Public Health Sciences
Chrispinus Hakimu Mumena, Nuraly S. Akimekov, Rajab Sasi Hussein Mudhihiri, Mohammed S. Razzaque.	Prognostic Value of Vitamin D Serum Level in Oral Cancer	Springer Nature: The series		Dental Clinical Sciences

Peer-reviewed Conference Papers and Presentations

Presenter(s)	Paper / Presentation Title	Conference Name	Date & Location	Department
Ngala Elvis Mbiydzenyuy	Early-Life Stress and HIV-Related Neurotoxicity: Developmental Pathways to Mental Health Risk and Resilience	Complexity in Mental Health: The Interplay Between Brain, Behaviour, and Context	April 26 - May 2, 2026, Erice, Italy	Basic Sciences

SCHOOL OF MINES AND MINERAL SCIENCES

Current Research Activities

Ongoing research projects and initiatives

1. **Mr Michael Mutale (Lecturer II, Geomatics Engineering**) — Currently advancing two research streams. (i) A companion manuscript co-authored with Prof. O. G. Ajayi (NUST), "Spatial correlations and a gender-responsive spatial framework for municipal planning: Evidence from Windhoek, Namibia," was submitted to Land Use Policy (Elsevier; Scopus and Web of Science indexed) on 2 April 2026 (Manuscript No. LUP-D-26-01245) and is currently under review. (ii) A symposium paper co-authored with Ms N. M. Moonga, "Multi-temporal NDVI Land Cover Classification of Forest Reserve No. 27, Lusaka East, 2013–2024," has been accepted for presentation at the EIZ Annual Symposium 2026 (April 2026, Lusaka). The work directly contributes to the Department's research clusters in Geoinformation Management and Cadastral Systems and in Remote Sensing and Geospatial Analysis.

2. **Mr Mwape Nathan Malama** (Lecturer, Geomatics Engineering) has co-authored with Kawawa Banda, Penjani Hopkins Nyimbili and Frank Mudenda, an article entitled **"Geospatial monitoring of access to water and sanitation services: a case of Kanyama constituency in Zambia"** in the Journal of Water, Sanitation and Hygiene for Development.

3. **Mr Nicholas Okello** (Lecturer, Geomatics Engineering – currently on study leave and pursuing a doctorate has co-authored with Dr Alick Nguvulu and Dr Makondo Casey Cuthbert and published an article entitled **"Four Decades (1984 - 2024) of Land Use and Land Cover Change in Zambia's Upper Kafue River Basin Using Ensemble Machine Learning"** in the Journal **Scientific African,** Volume 32, dated 2026/03/01.

4. **Dr Levi Mutambo** (HOD, Geomatics Engineering) is currently preparing journal articles for publication drawn from his PhD research entitled **"Hybrid Collectives for Effective Spatial Data Infrastructure Development in the Global South: Developing a Zambian Prototype"** — work that directly reinforces the Department's research cluster in Geoinformation Management and Cadastral Systems and contributes to the broader national agenda on spatial data governance.

5. **Mr Mwenya W. and Mr Tepa** are working on the extraction of copper from Nkana waste ore.

6. **Dr Yotamu Hara and the students** are working on a patent on the process of providing titanium dioxide and/or vanadium oxide. This patent was filed in the United States for examination.

Research Grants and Funded Collaborative Projects

Details of funded projects, sources of funding, and status

1. DAAD In-Country/In-Region Programme NELGA Research Fellowship (Total Award: €2,010; Personal Ref. No. 91935213), hosted at Namibia University of Science and Technology, Windhoek, February–April 2025. Awarded to Mr Michael Mutale, the award provided the research foundation for subsequent peer-reviewed publication and conference outputs in gender-responsive spatial analysis. Status: Completed.

2. DAAD Regional Alumni Conference Participation Grant — "Rethinking Water Governance in a Changing World," Mulungushi International Conference Centre, Lusaka, Zambia, 5–7 August 2025. Awarded to Mr Michael Mutale. Status: Completed.

3. EU INTPA-funded National Land Audit (NLA) Project, Zambia — Mr Michael Mutale engaged as Senior Non-Key Expert (June 2025 – March 2026) under the contracting authority of the Ministry of Lands and Natural Resources, implemented by DAI Global Belgium. Funder: European Union (EU INTPA). Status: Ongoing; closing March 2026.

4. Dr Yotamu Hara — Currently working on the extraction of copper and cobalt from the Copperbelt Province. The project is being funded by the National Science and Technology Council (NSTC). The value of the project is K800,000.

5. Leonard Kabondo, Dr J. Mulwanda, Prof Musango Lungu, Dr T.P. Chanda, Prof. John Siame, S. Mwale and G. Mwaula are working on the beneficiation of local lithium ore and the production of cathode precursor. The value of the project is 32,000 USD.

6. 25, 384 050 CZK Czech-funded MWAZACO project. This is ongoing until Dec 2027.

Consultancies Offered through Short Courses

Name	Client	Period Offered	Staff	Value (ZMK)
Mineral processing	Kalumbila	June, 2025	Mr. Mwenya, Mr. Tepa	80,700
Geometallurgy	Kalumbila	Sept. 2025	Mr. Mwenya, Dr. Nanja, Dr. Musialike, Dr. Songolo	344,000
Geometallurgy	Kalumbila	Dec. 2025	Mr. Mwenya, Dr. Nanja, Dr. Musialike, Dr. Songolo	
Total				**424,700**

Peer-reviewed Journal Publications

1. Uahengo F.D., Hara Y.R.S., Bazhko O. Effects of acids and reductants on iron salt leaching of copper-cobalt oxide ore: A case study from Zebesha Mine, Zambia. Journal of the Southern African Institute of Mining and Metallurgy. 2025 Oct;125(10):599-608.

2. Tina Chanda Phiri, Pritam Singh, Yotamu S. Hara, John Siame, Aleksandar N Nikoloski, Carbothermic reduction of copper slag in the presence of borax, Mineral Processing and Extractive Metallurgy Review, 2025/2/17.

3. Bábek, O., Sracek, O., Ettler, V., Kapusta, J., Kříbek, B., Mihaljevič, M., Nyambe, I., Penížek, V., Vaněk., A & Ziwa, G. (2025). Trends of Cu and Co-contaminated sediment dispersal along the Kafue River, the Zambian Copperbelt. Journal of Geochemical Exploration, 107900.

4. Ziwa, G., Crane, R., & Hudson-Edwards, K. A. (2025). Geochemistry and mineralogy of Cobalt in Mine wastes: examples from Cobalt, Canada and Cornwall, England. Frontiers in Geochemistry, 3, 1543695.

5. Mukube, P., Syampungani, S., Machogo-Phao, L., & Hitzman, M. (2025). Native plant species screening for phytogeochemical exploration in the Zambian Copperbelt. Journal of Geochemical Exploration, 107914.

6. M.W Songolo, E Chisakulo & EK Chanda. (2025). Development of a cutoff-grade model for determining the opportunity cost due to mineral royalty. Taylor &Francis. 236026.2024.2431469. To link to this article: https://doi.org/10.1080/19236026.2024.2431469, January 2025.

7. L. Mwelwa, V.M. Kawamya, E. Chisakulo, M.V. Bowa, C.K. Banda. (2025). Bulk density versus specific gravity values as tonnage factor in resource estimation/evaluation: a case study of heterogeneous arenaceous copper-hosted ore bodies at Mopani Copper Mines PLC, Mufulira, Zambia. Academia Engineering. https://www.academia.edu/146033373, December, 2025.

8. Mwema Wanjiya, C.-G. Jin, Y. Shen, Ming-Jie Yin, Quan-Fu An, Conversion of membrane surface charge property via post-crosslinking for heavy metal ion removal, Separation and Purification Technology, (2025) 131613 (IF=8.2).

9. Ntengwe F., Manda E., Lungu M., Chisakulo E., Mwanabute N. Application of job safety in mining operations: a review. African Journal of Health, Safety and Environment, vol. 6 (2025)

10. Ntengwe, F W., & Nonde, H. 2025. Recovery of Copper (II) From Malachite Ores (Cu_2CO_3 (OH_2)) Using LIX®984N* and Methane Sulphonic Acid (MSA, CH_3SO_3H), *Journal of Applied Science and Technology* (JAST), Vol. 24 (1 & 2), 2024/2025, pp. 39 – 51.

11. Amani Shilla, Gershom Mwandila and Rodrick M. Lamya. Extraction of aluminium from mudstone using a two-step acid leaching method. Chemical Engineering Communications. (2025) 212(04)

12. Munyadziwa Mercy Ramakokovhu, Moipone Linda Teffo, Tajudeen Mojisola, James Mulwanda, Lawrence Koech, Kasturie Premlall, Emmanuel Rotimi Sadiku, Industrial case studies: Processing, procedures and real application of new nanocomposite. Design of Functional Polymer Nanocomposites, (2025) 491-529.

13. Amos S. Segola, Mercy M. Ramakokovhu, James Mulwanda*, Moipone L. Teffo, Mxolisi B. Shongwe. Proximate and Washability Analysis of Witbank-Highveld Coal: Mineralogical Composition and Yield Evaluation. Pet Coal, (2025) 67, ISSN 1337 -7027.

14. Ronald Ngulube., Nombona, N. and Pillay, L., 2025. Sustainable Pb (II) Remediation: Efficacy and Selectivity of Moringa oleifera Composite Nanofibers. Discover Applied Sciences, (2025) 7(10), p.1132.

15. Phiri, C.T., Singh, P., Hara, S.Y., Siame, J. & Nikoloski, N.A. 2025. Carbothermic Reduction of Copper Slag in the Presence of Borax. Mineral Processing and Extractive Metallurgy Review (Taylor & Francis), 46(2): 165-176.

16. Musango L., Jingdai W., & Yongrong Y. 2025. On fluidization dynamics of Geldart D particles. Powder Technology, Volume 459, pp. 121014.

Peer-reviewed Conferences

1. Ronald Ngulube, Musango Lungu, Lloyd Mukosha, John Siame. Exploring Nanotechnology-Based Solutions for Environmental Remediation of Emerging Pollutants in Zambia – A Review. Presented at the EIZ Symposium: “Sustainable Engineering Solutions for Climate Change Mitigation”, 3 – 5 April 2025, Livingstone, Zambia. Publication: Proceedings of the EIZ 2025 Symposium. (2025).

Future Research Plans

Planned or proposed research directions and projects

Mr Michael Mutale — PhD studies at the Namibia University of Science and Technology (NUST), Windhoek (registered for 2026–2028 under the supervision of Prof. O. G. Ajayi), researching a **"Multi-Scale GIS–Remote Sensing Framework for Gender-Responsive Rainwater Harvesting Systems."** Two further conference papers have been accepted and are in preparation: "**Assessment of Land Use and Land Cover Dynamics in Kitwe, Zambia (2004–2024)" (with Ms. M. Mukunto)** for the SURE-Built 2026 International Conference (Johannesburg, September 2026; Springer Lecture Notes in Civil Engineering, Scopus/EI-Compendex indexed); and a SARSA 2026 paper (4th Annual Southern Africa Regional Science Association Conference, NUST, Windhoek, July 2026) on **housing cost burden and affordability for public school teachers in Namibian secondary towns (with S. Mwando et al.).**

SCHOOL OF NATURAL RESOURCES

Current Research Activities

1. **Facility for Action for Climate Empowerment to Achieve Nationally Determined Contributions (FACE-NDC)**
   The school participates in the implementation of the FACE-NDC project, focusing on climate action, renewable energy systems, climate education, and sustainable development aligned with Zambia's Nationally Determined Contributions.

2. **Optimizing Bokashi Fertilization in Masaiti and Mpongwe Districts**
   This research project focuses on sustainable agriculture, soil fertility improvement, and organic fertilisation systems to enhance agricultural productivity and climate resilience.

3. **Assessing the Impact of Acid Pollution on the Kafue River**
   The project investigates environmental pollution, ecosystem health, and water quality impacts associated with mining and industrial activities.

4. **Farmers-Driven Afforestation in Central and Eastern Zambia**
   Implemented in collaboration with WeForest, the project focuses on community-based afforestation, restoration of degraded landscapes, and climate resilience.

5. **Enhanced Livelihoods and Natural Resource Management under Accelerated Climate Change (ELNAC)**
   A SASSCAL-funded project investigating social–ecological systems, climate resilience, and sustainable livelihoods under changing environmental conditions.

6. **COVID Sequencing Consortium – Zambia**
   The project contributes to genomic surveillance and molecular epidemiology of SARS-CoV-2 in Zambia through sequencing and bioinformatics analysis.

7. **Filoviruses Footprints in Zambian Bats Project (FILOPRINT)**
   A TWAS-funded project investigating zoonotic disease ecology, bat-associated viral pathogens, and One Health systems in Zambia.

8. **Kinda Baboon Project**
   This research project focuses on long-term ecological and behavioural studies on primate ecology, conservation, and ecosystem interactions.

Research Grants and Funded Collaborative Projects

No.	Project	Funding Organization	Focus Area
1	Urban Forests Research: Role of Urban Forests in Mitigating Climate Change	National Science and Technology Council (NSTC)	Climate change mitigation, urban forestry, and environmental sustainability
2	Team Finland Knowledge Project	Finnish Government	Capacity building and knowledge exchange
3	Erasmus+ Project with Karelia University of Applied Sciences, Finland	European Union	Staff and student exchange, academic collaboration
4	Erasmus+ Project with Nicolaus Copernicus University, Poland	European Union	Staff and student exchange, academic cooperation
5	Facility for Action for Climate Empowerment to Achieve Nationally Determined Contributions (FACE-NDC)	FACE-NDC Programme Partners	Climate action, renewable energy, climate empowerment, NDC implementation

No.	Project	Funding Organization	Focus Area
6	Optimizing Bokashi Fertilization in Masaiti and Mpongwe Districts	WeForest	Sustainable agriculture, organic fertilisation, soil improvement
7	Farmers-Driven Afforestation in Central and Eastern Provinces of Zambia	WeForest	Afforestation, ecosystem restoration, climate resilience
8	Enhanced Livelihoods and Natural Resource Management under Accelerated Climate Change (ELNAC): Investigating Large-Scale Social–Ecological Systems Dynamics	SASSCAL	Climate change, natural resource management, socio-ecological systems
9	COVID Sequencing Consortium, Zambia: Genomic Surveillance of SARS-CoV-2	Robert Koch Institute and Hokkaido University	Genomic surveillance, public health, infectious disease research
10	Kinda Baboon Project: Long-Term Ecological and Behavioural Studies	New York University	Primate ecology, behavioural studies, biodiversity conservation
11	Wellcome Trust Grant Project	Wellcome Trust	Public health, ecology, interdisciplinary research

Peer-Reviewed Journal Publications

1. Mulenga, G., Phiri, D., Chisanga, C. B., Simwanda, M., & Nyirenda, V. R. (2025). *Effects of urban-driven land use/land cover change on forest reserves in Zambia: A geospatial approach*. African Geographical Review, 1–27.

2. Mulwanda, C., Nyirenda, V. R., Namukonde, N., & Phiri, D. (2025). *Insights on spatio-temporal distribution and trends of insect pollinator studies in Sub-Saharan Africa: A systematic review*. Ecological Frontiers, 45(6), 1519–1530.

3. Mulenga, C., Ortega-Rodriguez, D. R., Brito, H. D., Phiri, D., Mohammed, A. S., Lwali, C. A., & Speer, J. H. (2025). *Dendrochemical analysis of Brachystegia longifolia Benth as an indicator of sulphur deposition in a copper smelting area of Mufulira, Zambia*. Discover Applied Sciences, 7(6), 549.

4. Kanja, K., Zhang, C., & Atkinson, P. M. (2025). *Evaluating multi-seasonal SAR and optical imagery for above-ground biomass estimation using the national forest inventory of Zambia*. International Journal of Applied Earth Observation and Geoinformation, 139, 104494.

5. Yambayamba, A. M., Handavu, F., Kapinga, K., & Jucker, T. (2025). *Tree height uncertainty biases aboveground biomass estimation more than wood density in miombo woodlands*. EGUsphere, 1–37.

6. Kwenye, J. M., Kabwe, G., Mulenga, P., & Dalu, M. T. B. (2025). *The contribution of Chikanda orchids to rural livelihoods: Insights from Mwinilunga District of Northwestern Zambia*. Sustainability, 17(13), 6131.

7. Dusengemungu, L., Kasali, G., Gwanama, C., & Mubemba, B. (2025). *Corrigendum to "Overview of fungal bioleaching of metals"*. Environmental Advances, 100658.

8. Denga, R. V., Simwanda, M., Vinya, R., Ranagalage, M., & Murayama, Y. (2025). *Spatiotemporal patterns of agriculture expansion intensity and land-use/cover changes in the mixed urban-rural Upper Kafue River Basin of Zambia (1989–2019)*. Agriculture, 15(10), 1047.

9. Dehmel, N., Schreckenberg, K., Franks, P., Jones, N., Booker, F., Lambini, C., … Chikumbi, D. C. (2025). *Insights from equitable governance assessments in conservation areas around the world*. Conservation Biology, e70101.

10. Knowles, T., Stevens, N., Amoako, E. E., Armani, M., Barbosa, C., Beale, C., … Dintwe, K. (2025). *Viability and desirability of financing conservation in Africa through fire management*. Nature Sustainability, 8(3), 226–233.

11. Zulu, E., Ramasamy, S., Sikhwivhilu, K. K., & Syampungani, S. (2025). *A comprehensive review of recent advances in membrane innovations for efficient heavy metal removal from mine effluents*. Scientific African, 27, e02510.

12. Ouma, K. O., Shane, A., Monde, C., & Syampungani, S. (2025). *Benthic macroinvertebrates as bioindicators of stream health within the Central African Copperbelt*. Water, Air, & Soil Pollution, 236(7), 443.

13. Mukube, P., & Syampungani, S. (2025). *Mine wastelands and abandoned mines in Zambia*. In *Derelict Mines* (pp. 284–298). CRC Press.

14. Chishaleshale, M., Chirwa, P. W., Zekeng, J. C., Cheelo, G., Shamaoma, H., & Syampungani, S. (2025). *Land use and land cover dynamics of the endemic Cryptosepalum forests of North-Western Zambia*. SSRN 5119730.

15. Santika, W. B., & Aryani, Y. (2025). *Trees in a Sub-Saharan multi-functional landscape: Research, management, and policy*. Taylor & Francis.

16. Kasimbo, M., Johnson, T., Mwamba, T., Uwimbabazi, A., & Syampungani, S. (2025). *Macrofauna–environment interactions and their potential in restoring degraded landscapes in the context of Sub-Saharan Africa: A review of current knowledge*. Scientific African.
17. Chama, L., Siachoono, S. M., & Phiri, D. (2025). *Nutrient deficit, rather than the distance of farming activities from the boundary of protected areas, drives crop raids by elephants*. Ecology and Society, 30(3).

18. Mutale, B., Maulu, S., & Chilambwe, A. (2025). *Food security dimensions: Threshold effects and causal interactions—Panel evidence from Southern Africa*. Cogent Food & Agriculture, 11(1).

19. Nanja, C., Chibesa, M., & Chomba, M. (2025). *Seasonal variations in waterbird diversity and threats to the Barotse Floodplain*. Journal of Agricultural and Biomedical Sciences, 9(3).

20. Chibiya, R. C., Hasimuna, O. J., Mphande, J., Bwalya, H., Mumbula, I., Mbewe, G., … Chibesa, M. (2025). *Evaluating the anaesthetic efficacy of clove stem powder (Syzygium aromaticum) in Redbreast tilapia juveniles*. Journal of Applied Animal Research, 53(1).

21. Musenge, D. C., Phiri, D., Namukonde, N., Mulenga, G., & Nyirenda, V. R. (2025). *A spatial analysis of habitat connectivity in Simalaha Community Conservancy of Zambia*.

22. Mulwanda, C., Namukonde, N., & Nyirenda, V. R. (2025). *Effects of heavy metals on insect pollinator diversity in Zambia's Mufulira District mining area*. African Journal of Ecology, 63(3), e70052.

23. Tiamgne, X. T., Domingo, D., Kalaba, F. K., Nyirenda, V. R., & Gómez, C. (2025). *Multi-scenario land use simulation for fast human growth regions: A case study of Zambia's Solwezi mining district*. Resources Policy, 107, 105661.

24. Phiri, D., Mulenga, C., & Nyirenda, V. R. (2025). *Mapping flood extent of Cyclone Freddy using Sentinel-1 SAR data in Google Earth Engine in Southern Malawi*. Discover Water, 5(1), 12.

25. Nasilele, M., Nduna, N., Nguluka, L., Davies, S., & Nyirenda, V. R. (2025). *Efficacy of the "Worth More Alive" wildlife campaign at Zambia's Kenneth Kaunda International Airport: A case study on travellers' perceptions and attitudes*. Global Ecology and Conservation, e03475.

26. Mufungwe, J., Namukonde, N., Mwaanga, P., Johnson, T., Siamujompa, M., Mwango, N. C., … Hang'ombe, B. M. (2025). *Critical safety concerns in the production of Black Soldier Fly larvae in Africa*. Discover Food, 5(1), 74.

27. Mapiki, P., Laiser, E., Mufungwe, J., Shawa, M., Siamujompa, M., Johnson, T., Namukonde, N., … Hang'ombe, B. M. (2025). *Bacteriological quality of fresh and processed Black Soldier Fly larvae reared on chicken manure in Kitwe, Zambia*. Microbiology Spectrum, e00570-24.

28. Ouma, K. O., Shane, A., Monde, C., & Syampungani, S. (2025). *Spatiotemporal response and phytopotential of Typha domingensis for management of aquatic metal pollution on the Central African Copperbelt*. Ecology and Evolution, 15(3), e71039.
29. Munjita, S. M., Kalonda, A., Mubemba, B., Vanaerschot, M., Tato, C., Mwakibete, L., … Simulundu, E. (2025). *Evidence of multiple bacterial, viral, and parasitic infectious disease agents in Mastomys natalensis rodents in riverine areas in selected parts of Zambia*. Infection Ecology & Epidemiology, 15(1), 2441537.

30. Mulemena, J. A., Sichamba, P., Muleya, W., Mubemba, B., Chitanga, S., Simulundu, E., & Changula, K. (2025). *Global distribution of coronaviruses among bat populations detected using molecular techniques: A systematic review*. bioRxiv.

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32. Feder, J. A., Alberts, S. C., Archie, E. A., Arlet, M. E., Baniel, A., Beehner, J. C., … Mubemba, B. (2025). *Disparate social structures are underpinned by distinct social rules across a primate radiation*. bioRxiv.

33. Siachoono, S., Simamora, T. I., & Laumonier, Y. (2025). *Bird assemblages and indicators for the monitoring of woodland ecosystems in southern Zambia* [Dataset]. Zenodo.

34. Gygax, D., Ramirez, S., Chibesa, M., Simpamba, T., Riffel, M., Riffel, T., … Urban, L. (2025). *Evaluation of nanopore sequencing for increasing accessibility of eDNA studies in biodiverse countries*. PLoS One, 20(10), e0333994.

35. Hasimuna, O. J., Mphande, J., Maulu, S., Chibesa, M., Siankwilimba, E., Mumbula, I., … Khalil, H. S. (2025). *The status, challenges, and potential opportunities of fish seed production in Zambia*. Aquaculture International, 33(6).

36. Mphande, J., Sikawa, D. C., Madalitso, C. M., Chibesa, M., & Hasimuna, O. J. (2025). *Anaesthetic effect of sodium bicarbonate and its effect on haematological parameters of three-spotted tilapia broodstock*. Journal of Applied Aquaculture, 37(2), 123–137.

37. Hasimuna, O. J., Mphande, J., Lengwe, M., Siavwapa, S., Bbole, I., Bwalya, H., … Chibesa, M. (2025). *An assessment of government-funded small-scale cage fish farming in Siavonga District, Zambia: Performance, challenges and opportunities*. Frontiers in Sustainable Food Systems, 9.

38. Nyendwa, N., Ng'andwe, S., & Musuka, C. G. (2025). *Evaluating the growth efficiency of Oreochromis andersonii using commercial and on-farm formulated feed in controlled indoor tanks*. International Journal of Aquaculture, 15.

39. Hasimuna, O. J., Jere, W., Mtethiwa, A., Chibesa, M., Mphande, J., Mumbula, I., & Yabe, J. (2025). *Human health risk assessment of cadmium and lead exposure in Limnothrissa miodon fish from Lake Kariba, Zambia*. Cogent Food & Agriculture, 11(1).

40. Zampieri, N. E., Speer, J. H., Maxwell, R. S., Bekker, M. F., Mulenga, C., Ngoma, J., … Munalula, F. (2025). *Dendrochronological applications in Zambia's wet miombo woodlands: Insights from the African Fieldschool*. Tree-Ring Research.
41. Ng'andwe, S., Ogendi, G. M., Muoria, E., & Ngoma, J. (2025). *Assessment of hygiene and sanitation practices in an informal settlement dwelling: A case study of Kitwe City, Zambia*. Discover Public Health, 1.

42. Ng'andwe, S., Ogendi, G. M., Muoria, E., & Ngoma, J. (2025). *Microbial water quality at the point of use: The role of socio-economic factors and water handling practices in Kitwe District, Zambia*. Environmental Health Insights, 19.

43. Ngandwe, S., Ogendi, G. M., Muoria, E., & Ngoma, J. (2025). *Seasonal variations of microbial water quality from shallow wells and prevalence of water-related diseases*. Journal of Geoscience and Environment Protection, 13, 1–19.

44. Mulenga, C., Nakazwe, B., Phiri, D., Lwali, C. A., & Siwale, W. (2025). *Bioaccumulation and potential human health risks of Cu, Co, Pb and Zn in Guizotia scabra and Urena lobata growing in a copper mining environment*. Discover Plants, 2(1), 125.

45. Dadi, M., Siwale, W., Munalula, F., Ravi, S. N., Mundike, J., Ramasamy, S., & Mulenga, C. (2025). *A comprehensive review of advances in bioenergy, including emerging trends and future directions*. Discover Energy, 5, Article 26.

46. Kamanga, T., Mulenga, C., & Ng'andwe, P. (2025). *Floristic composition, diversity and forest structure in urban landscapes of Zambia's mineral mining belt*. Tanzania Journal of Forestry and Nature Conservation, 94(2).

47. Groenendijk, P., Babst, F., Trouet, V., Fan, Z.-X., Granato-Souza, D., Locosselli, G. M., … Ngoma, J. (2025). *The importance of tropical tree-ring chronologies for global change research*. Quaternary Science Reviews, 355, 109233.

48. Zuidema, P. A., Ngoma, J. (2025). *Pantropical tree rings show small drought effects on stem growth*. Science, 389, 532–538.

Peer-Reviewed Conference Papers and Presentations

1. Phiri, D., Namukonde, N., and Nyirenda, V. (2025). *Assessing drought impacts on habitat dynamics in a human-wildlife coexistence landscape: A case study of Liuwa National Park, Zambia*. Paper presented at the Climate Change and Futures Conference 2025, Windhoek.

2. Zulu, D. (2025). *Effect of bokashi fertilization on cabbage and maize production*. Presented at the Annual General Meeting (AGM) and Conference, Lusaka.

3. Zulu, D. (2025). *Beekeeping as an alternative livelihood for rural communities*. Presented at the Annual General Meeting (AGM) and Conference, Lusaka.

4. Bekker, M. F., Musekela, F. K., Owusu-Ansah Jr., J., Stewart, A. K., Ngoma, J., Mulenga, C., Speer, J. H., Maxwell, S. R., Zampieri, N. E., & Krusic, P. J. (2025). *Documenting the wood*

anatomy of subtropical woodland species in Zambia. Paper presented at the 11th WorldDendro Conference, Livingstone.

5. Bekker, M. F., Speer, J. H., Maxwell, R. S., Zampieri, N. E., Ngoma, J., Mulenga, C., Ng'andwe, P., Munalula, F., & Kaluwe, M. (2025). *Documenting the wood anatomy of Zambian wet and dry miombo woodlands*. Paper presented at the 11th WorldDendro Conference, Livingstone.

6. Kipuputwa, C. S., Ngoma, J., & Speer, J. H. (2025). *Linking tree-ring characteristics to timber quality: A predictive dendrochronological approach*. Paper presented at the 11th WorldDendro Conference, Livingstone.

7. Mulenga, C., Ortega-Rodriguez, D. R., Brito, H. D., Phiri, D., Mohammed, A. S., Lwali, C. A., & Speer, J. H. (2025). *Dendrochemical analysis of Brachystegia longifolia Benth unravels reduced copper smelting-induced sulphur dioxide emissions in Mufulira, Zambia*. Paper presented at the 11th WorldDendro Conference, Livingstone.

8. Mulenga, C., Ng'andwe, P., Ngoma, J., Phiri, D., Munalula, F., Sichamba, K., Chileshe, F., Mwitwa, J., & Vinya, R. (2025). *Biomarking mining-induced heavy metal dispersion in playparks of the urban copper mining belt of Zambia*. Paper presented at the 11th WorldDendro Conference, Livingstone.

9. Munalula, F., Mulenga, C., Ng'andwe, P., Ngoma, J., Phiri, D., Sichamba, K., Chileshe, F., Kipuputwa, C., & Mwitwa, J. (2025). *What trees can tell us: Exploring Zambia's urban forest memory*. Paper presented at the 11th WorldDendro Conference, Livingstone.

10. Munalula, F., Seifert, T., & Meincken, M. (2025). *Climatic influences on wood anatomy in three miombo tree species across Zambia*. The paper was presented at the 11th WorldDendro Conference, Livingstone.

11. Ngoma, J. (2025). *Unlocking Africa's potential in dendrochronology: Emerging contributions to global climate science*. Paper presented at the 11th WorldDendro Conference, Livingstone.

12. Ngoma, J., Ng'andwe, P., Mulenga, C., Munalula, F., Phiri, D., Sichamba, K., Kamanga, T., Mwango, N. C., & Buumba, L. (2025). *Exploring the dendrochronological potential of urban tropical tree species in Zambia's Copperbelt Province*. Paper presented at the 11th WorldDendro Conference, Livingstone.

13. Ng'andwe, P., Ngoma, J., Phiri, D., Mulenga, C., Munalula, F., Sichamba, K., Kamanga, T., Speer, J. H., Krusic, P., Bekker, M., Chunda-Mwango, N., & Buumba, L. (2025). *Unlocking the carbon sequestration potential of urban trees in Zambia*. Paper presented at the 11th WorldDendro Conference, Livingstone.

14. Phiri, D., Ng'andwe, P., Mulenga, C., Ngoma, J., Munalula, F., Sichamba, K., Chileshe, F., Mwitwa, P. J., & Vinya, R. (2025). *Impacts of urbanization on green spaces in the Copperbelt Province: A remote sensing analysis of vegetation*. The paper was presented at the 11th WorldDendro Conference, Livingstone.

15. Speer, J. H., Zampieri, N., Bekker, M., Maxwell, S., Ngoma, J., Mulenga, C., Munalula, F., & Ng'andwe, P. (2025). *Tree-ring potential in Zambia through the African Dendrochronology Fieldschool*. Paper presented at the 11th WorldDendro Conference, Livingstone.

16. Zulu, C. T., Speer, J. H., Zampieri, N. E., Bekker, M., Maxwell, S. R., Ngoma, J., & Munalula, F. (2025). *Dendrochronology in a wet miombo woodland, Zambia*. Paper presented at the American Association of Geographers Conference, Detroit.

17. Zulu, C. T., Speer, J. H., Zampieri, N., Maxwell, S., Bekker, M., Ngoma, J., Mulenga, C., & Munalula, F. (2025). *Reconstructing stand age structure in a wet miombo woodland using dendrochronology, AEL Forest, Zambia*. The paper was presented at the 11th WorldDendro Conference, Livingstone.

Future Research Plans

The School of Natural Resources has developed strategic plans to strengthen research excellence, expand collaborative networks, increase research funding, enhance postgraduate training, and improve societal impact. The major future research priorities include:

(i) Strengthening Research Collaborations
The school intends to strengthen existing local and international collaborations while pursuing new partnerships with research institutions, industry, development agencies, and funding organisations.

(ii) Expanding Research Grant Acquisition
Efforts will be directed towards increasing the submission of competitive research proposals to local and international funding agencies, including SASSCAL, FAO, TWAS, Wellcome Trust, National Science and Technology Council, African Union programmes, and climate finance mechanisms.

(iii) Increasing Research Visibility and Dissemination
The school aims to increase participation in international conferences, scientific forums, and publication of research outputs in high-impact peer-reviewed journals.

(iv) Strengthening Research Infrastructure and Laboratory Capacity
Plans include strengthening laboratory infrastructure and technical capacity in bioenergy systems, environmental monitoring, wildlife health, biotechnology, climate science, and aquatic systems.

(v) Enhancing Postgraduate Training and Mentorship
The school intends to strengthen postgraduate supervision, mentorship, research skills training, and scientific writing support for early-career researchers and postgraduate students.

(vi) Promoting Policy Engagement and Community Impact
The school will continue translating research findings into policy recommendations, community interventions, and sustainable development initiatives.

(vii) Expanding Consultancy and Industry Engagement
Plans include establishing structured consultancy frameworks to increase collaboration with government institutions, NGOs, conservation organisations, and private sector stakeholders.

SCHOOL OF THE BUILT ENVIRONMENT

Current Research Activities

(1) Mwiinde C. Currently working on the PhD research titled "**A public-private partnership framework for affordable student accommodation at public universities in Zambia: institutional, financial and governance perspectives".**

(2) Shamaoma H., Syampungani S., Cheelo G., Handavu F., Phiri C. M., Chishaleshale M., & Mwiinde C. -Currently researching "**Effect of Land tenure on forest conservation**" **Status.**

(3) Mwiinde C., Shamaoma H., & Munshifwa E.K. - Currently working on Chapter 8, titled **"Wetland Encroachment, Urban Flooding and Human Displacement: Socio-economic drivers and geospatial analysis of Kitwe and Ndola, Zambia" of a multi-author contributed book titled "Wetland Gentrification"** to be published by Routledge under the Environment and Sustainability series.

(5) Mwiinde C., Simbule T., & Munshifwa E.K. - Currently working on a Paper titled "**Informal settlements upgrading: Challenges and lessons from the Zambian experiences**".

(6) Thomas Kweku Taylor and Barbara Mumba: **Awakening Reality of Planners on the relationship between Politics and Urban and Regional Planning Practice in Zambia**

(7) Thomas Kweku Taylor, Alice Tembo and Christopher Msipu Phiri: **Land Tenure Security and Housing Investments in Informal Settlements in Kitwe, Zambia**

(8) Thomas Kweku Taylor, Alice Tembo: House Ownership**, Land Tenure Security, and Perceived Opportunities for Landlords and Landladies in Selected Informal Settlements in Kitwe.**

(9) Thomas Kweku Taylor, Alice Tembo: **Land Tenure Security: A Means to Improve Social Status by Landlords and Landladies of Informal Settlements.**

(10) Shamaoma H., Mwika, M. G., and Tembo E. **Reviewing the Progress and Challenges of the Digitization of Zambia's Land Information System for Cadastral Surveys**
Status: Draft manuscript undergoing final internal review before submission.

Peer- Reviewed Journal Publications

1. D. Owuor, T.K. Taylor, S. Simushi, M. Mutondo (2025): *Blockchain-driven sustainable business model for artisanal and small-scale mining operators in Zambia*, Digital Business, Volume 5, Issue 2, December 2025, 100153, https://doi.org/10.1016/j.digbus.2025.100153.

2. Sampa Chisumbe, Chrisitone Sinkala, Chipozya Tembo and Clinton Aigbavboa (2025), investigating the effectiveness of stress management strategies in the construction industry: A developing country's perspective, Baltic *Journal of Real Estate Economics and Construction Management*, ISSN 2255-9671, 2025,13,158-175.

3. Makashini, L., Munshifwa, E.K., and Mushinge, A. (2025). A Community-Based Approach to Regenerate and Future-Proof Real Estate for Economic Shocks: A Case of Recreation Centres in Copperbelt Towns. Paper presented at the National Valuation and Real Estate Annual Conference on Sustainable Asset Management: Future Proofing Real Estate from Economic and Environmental Shocks held in Livingstone from 7 to 8 August 2025.

4. Shamaoma, Hastings, Chirwa Paxie W.; Zekeng Jules C., Ramoelo Abel, Hudak, Andrew T., Handavi Ferdinand, Syampungani Stephen (2025), *Utility of UAS-LIDAR for estimating forest structural attributes of the Miombo woodlands in Zambia, PLOS ONE*

5. Oswaldo Maillard, Natasha Ribeiro, Amanda Armstrong, Ana I. Ribeiro-Barros, Samora Macrice Andrew, Lucy Amissah, Zeinab Shirvani, Jonathan Muledi Omid Abdi, Huascar Azurduy[1], João M. N. Silva, Stephen Syampungani, Hastings Shamaoma, Victorino Buramuge (2025*) Seasonal spatiotemporal trends of vegetation recovery in burned areas across Africa:* 2001-2022 PLOS ONE, in Press.

6. D. Owuor, T.K. Taylor, S. Simushi, M. Mutondo (2025): *Blockchain-driven sustainable business model for artisanal and small-scale mining operators in Zambia*, Digital Business, Volume 5, Issue 2, December 2025, 100153, https://doi.org/10.1016/j.digbus.2025.100153.

7. Mwansa, C., Mushinge, C., Chipaila, M. and Chikonde, T. (2025) *Green belts for cleaner, healthier informal settlements in Lusaka: A case of Chainda Compound*. Paper presented at ZIA Annual Conference, Livingstone, November 2025.

8. Bwalya, V. and Antonio, B. (2025) *Using agent-based models to explore spatial gentrification dynamics in Kalingalinga and Kalundu, Lusaka, Zambia: Juxtapositions of love and pain in the context of gentrification dynamics*. Paper presented at ZIA Annual Conference, Livingstone, November.

9. Michael Chisenga and Chipozya Kosta Tembo (2025) An Investigation into Smart Practice in Higher Education: Towards Learner-Centred Approaches in Zambian Institutions, National symposium held at Garden Court, Kitwe, from 2-4 December 2025.

10. Ephraim Zulu and Chipozya Kosta Tembo (2025). Measuring the Education Environment at the Copperbelt University using the Dundee Ready Education Environment Measure (DREEM), National symposium held at Garden Court, Kitwe, from 2-4 December 2025.

11. Ndanji Siame, Chipozya Tembo and Chimuka Milandu (2025). Investigating Cost Estimation Accuracy in Mine Buildings and Surface Infrastructure Decommissioning in Zambia, at the Zambia Institute of Quantity Surveyors 2025 Conference, held in Livingstone at the Radisson Blu Hotel from 20 to 22 November 2025.

12. Mwaba, S., Taylor, T.K. and Linde, S.J.L. (2025) *Mine-generated dust exposure and factors enhancing workers' safety compliance in a Zambian copper mine*. Paper presented at the Second All-African Multidisciplinary Research Conference, Makerere University, Kampala, 1–2 July.

13. Moonga, P.J., Olorundami, T., Shamaoma, H. and Taylor, T.K. (2025) *Utilization of nature-based solutions in urban planning and design for climate change adaptation: A solution to pluvial flooding*. Paper presented at the 10th Annual Zambia Institute of Planners (ZIP) National Conference, "Towards Zambia's Resilience," Radisson Blu Hotel, Livingstone, 1–4 July.

Books And Book Chapters

(1) Progress Choongo *, Mungu Chileshe, Christine Nakamba Lesa, Bruce Mwiya and Thomas Kweku Taylor (2025): New Advances in Business, Management and Economics Vol. 7. Impact of Leadership Styles and Their Influences on the Growth of Fintech Start-ups in Zambia. Chapter 7. Print ISBN: 978-93-49729-80-3, eBook ISBN: 978-93-49729-16-2. DOI: https://doi.org/10.9734/bpi/nabme/v7/5309.

(2) Mwiinde C., Simbule T., & Munshifwa E.K. (2025) - Chapter 18, titled "Integrating Wetlands into Urban Planning for Resilience of Cities: A pathway to the achievement of Sustainable Development Goals", of a multi-author contributed book titled "Wetlands and Urban Resilience: A Global Outlook".

COPPERBELT UNIVERSITY AFRICA CENTRE OF EXCELLENCE FOR SUSTAINABLE MINING

Consultancies

No.	Research Title	Principle Investigator	Research Team	Funding Agency & Budget	Project Funds
1.	Artificial Intelligence Analysis for Tailings Storage Facilities (GAIA-TSF)	Dr. Mwansa Chabala	Dr. Mwansa Chabala Dr. Cuthbert Makondo	European Union (EU) Horizon Project-Iberian Sustainable Mining Cluster (ISMC).	**ZMW 746,341.89**
2.	The Green Recycling Enterprises Engaging in New Technology for a Circular Economy in Zambia GreenTech4CE. The project operates under the broader Green Economy Promotion and Diversification (GEPD) Programme to promote sustainable practices by supporting the development of start-ups and MSMEs in the green, circular economy and digital sectors, as well as enterprises that want to go green and make their business models circular.	Dr. Mwansa Chabala	ACESM	European Union (EU) through Self Help Africa	**€150,000.00**

Research Grants and Funded Collaborative Projects

No.	Research Title	Principle Investigator	Research Team	Funding Agency & Budget	Income Received
1.	Beneficiation of Local Lithium Ore and Production of Cathode Precursor	Dr. James Mulwanda	Dr. Musango Lungu Mr. Leonard Kabondo Prof. John Siame Mr. Willian Mubanga Chiteta	National Science and Technology Council (NSTC) Strategic Research Funds (SRF)	**USD 31,635.00**
2.	Recovery and Mineral Value Addition of Copper in Tailings from the Zambian Copperbelt	Dr. Precious Chisala	Dr. James Mulwanda Prof. John Siame Mr. Wiseman Mwanza Mr. Ronald Ngulube	National Science and Technology Council (NSTC) Strategic Research Funds (SRF) **ZMW 575,570.00**	**ZMW 230,030.00**

3	Development of a novel and cost-effective technology for the recovery of copper, cobalt, and gypsum from tailings dumps	Prof. Phenny Mwaanga	Dr. Yotam Hara, Dr. Gershom Mwandila, Mr. Emmanuel Chibwe, Mrs. Beatia Siame, Mrs. Bawemi Beauty Mtonga	National Science and Technology Council (NSTC) Strategic Research Funds (SRF) **ZMW 800,000.00**	**ZMW 452,000.00**
4.	Development of Smart Copper-Based Nanoparticle Drug Carriers for the Treatment of Tumours	Prof. Phenny Mwaanga	Prof. Poslet Shumbula (University of Limpopo) Prof. Phumlani Tetyana (Mintek)	National Technology Business Centre (NTBC)	**ZMW 275,478.36**
5.	Microwave Synthesized Quantum Dots Genosensors for Genetically Modified Crops	Prof. Phenny Mwaanga	Dr. Kawunga Nyirenda, Dr. Onemus Munyati, Dr. James Nyirenda	National Science and Technology Council (NSTC) Strategic Research Funds (SRF) **ZMW 225,000**	**ZMW 101,363.00**
6.	Investigating the sustainable production of edible insect larvae as a source of protein for animal feed in Zambia	Dr. Ngawo Namukonde	Dr. Todd Johnson, Dr. Joyce Mufungwe, Prof. Phenny Mwaanga, Dr. Justine Ngoma, Dr. Nelly Chunda Mwango	National Science and Technology Council (NSTC) Strategic Research Funds (SRF) **ZMW 795,036**	**ZMW 296,496.00**

7.	Quality Air Monitoring with Micro Sensors	Prof. Hastings Maboshe Libati	Prof. Hastings Maboshe Libati	National Technology Business Centre (NTBC) **ZMW 95,000**	**ZMW 83,500.00**
8.	Developing a Framework for Public-Private-Partnerships (PPPs) in Research and Innovation (R&I).	Dr. Shem Sikombe	Prof. Franco Muleya, Dr Joseph Phiri, Dr Sambo Zulu, Mrs. Mercy Lungu-Situtu, Mr Peter Simasiku.	National Science and Technology Council (NSTC) Strategic Research Funds (SRF) **ZMW 275,720.00**	**ZMW 275,720.00**
9.	Strengthening The Partnership Among Government, Academia and Industry in Research and Innovation	Dr. Joseph Phiri	Dr. Bruce Mwiya, Mr. Anthony Gabaghe, Dr. Edward Chisakulo, Dr. Chanda Sichinsambwe, Dr. Rudolph Kashinga	National Science and Technology Council (NSTC) Strategic Research Funds (SRF) **ZMW 726,652.00**	**ZMW 677,171.00**
10.	Slope Stability Analyses of the Jointed Rock Slope in Large and Small Surface Mines Subjected to Slide Head Toppling Failure Mechanism	Dr. Mwango Bowa	Dr. Sydney Chinyanta, Mr. Lazarous Mwelwa	National Science and Technology Council (NSTC) Strategic Research Funds (SRF) **ZMW 800,000.00**	**ZMW 760,000.00**
11.	Innovation, Implementation: Strengthening Professional Capacities in Zambia in the Field of Sustainable Economic Development and Supporting the Circular Economy	Dr. Joseph Phiri	Prof. Bruce Mwiya Prof. Chanda Shikaputo	University of Chemistry and Technology, Prague, through the Czech	**ZMW 545,043.00**

				Republic's Ministry of Foreign Affairs.	
12.	"Capacity Building in Implementation Science Education for Non-Communicable Disease Prevention and Management in Africa" (IS4NCDs)	Dr. David Mulenga	Dr. Mwila Hilton Mwaba Mr. Clifford M. Mwaamba	Open research grant/UTRETCH	**USD 15,745.12**
13.	The Natural Environment Research/Graphite BGS	Prof. Kakoma Maseka	Dr. Nelly C. Mwango Dr. Edward Chisakulo	British Geological Survey (BGS)	**ZMW 249,857.00**
14.	Sustainability Starts with Teacher Leaders (SSTL)	Prof. Overson Shumba	Prof. Overson Shumba Dr. Asiana Banda	Leuphana University/Erasmus Project/ European Commission Grant	**ZMW 709,266.69**
15.	Collaborative UNMC-CBU Dental College Pilot Project for Improving Dental Care and Access for Peri-Urban Communities (2025)	Dr. Chrispinus H. Mumena	School of Medicine Department of Dental and Clinical Science	Lincoln Rotary Club #14	**USD 5000**
16.	FQM Trident Mineral Processing Short Course Consultancy	School of Mines and Mineral Sciences	School of Mines and Mineral Sciences	First Quantum Mine (FQM) Trident	**ZMW 80,700.00**

Peer-reviewed Journal Publications

(1) Herbert Tato Nyirenda*, David Mulenga, Hilda Nyambe-Silavwe. "Leveraging culinary nutrition interventions and contextual factors to combat child growth failure in mining communities for maximum impact" https://doi.org/10.1016/j.nutos.2024.12.005

(2) Alex. Koech a, b, Gershom Mwandila a, b, Francis Mulolani c, Phenny Mwaanga d. "Lithium-ion battery fundamentals and exploration of cathode materials: A review" https://doi.org/10.1016/j.sajce.2024.09.008

(3) Lubinda Nabiwa[1], Stephanus J.L. Linde[2], Adrian Habanyama[1], Patrick Hayumbu[3], Mwaba Sifanu[3], Masilu Daniel Masekameni[4]. "Occupational exposure to respirable crystalline silica at an underground copper mine in Zambia" https://doi.org/10.1093/annweh/wxae096

(4) M. W. Songolo, E. Chisakulo, & E. K. Chanda "Development of a cutoff-grade model for determining the opportunity cost due to mineral royalty" https://doi.org/10.1080/19236026.2024.2431469

(5) Xavier Takam Tiamgne [1], Darío Domingo [2], Felix K. Kalaba[3], Vincent R. Nyirenda [4], Cristina Gómez [5] "Multi-scenario land use simulation for fast human growth regions: A case study of Zambia's Solwezi mining district." https://doi.org/10.1016/j.resourpol.2025.105661

(6) M. Mkokweza, S. Kumaran and G. Mufungulwa, "A Comparative Study of XBORE and XBOREOPT Hybrid Models for Ore Production Forecasting in the Mining Industry," in IEEE Access, vol. 13, pp. https://ieeexplore.ieee.org/document/11048604

Peer-reviewed Conference Papers and Presentations

1. **Research Papers Presented at National and International Forums**

Prof. Ephraim Munshifwa, one of the recipients of the ACESM Staff Research Grant, conducted a research project titled *"Acid Rain and Its Effect on Buildings in Former Mine Townships in the Copperbelt Province."* As part of this research output, Prof. Munshifwa presented a conference paper titled *"Mining, Environmental Effects and the Real Estate Market: A Case of Former Mining Townships in the Copperbelt Province of Zambia"* at the African Real Estate Society (AfRES) 24th Annual Conference, held from 9th to 13th September 2025 at the Oriental Hotel in **Lagos, Nigeria**. The presentation not only provided an opportunity to share research findings on the intersection between mining activities, environmental degradation, and real estate dynamics in post-mining communities but also enhanced the visibility of the Copperbelt University and ACESM on an international academic platform while strengthening regional collaboration and networking with researchers and industry experts in real estate and environmental studies. This achievement underscores the significant role of ACESM's internal research grant in promoting staff research engagement, output, and knowledge dissemination.

2. **EU-Zambia Lobito Corridor Business Forum**

In November 2025, Dr Mwansa Chabala participated as a panelist at the EU-Zambia Lobito Corridor Business Forum held in Lusaka from **12th to 14th November 2025**. His participation focused on strategic perspectives related to sustainable mining, regional connectivity, and the developmental potential of the Lobito Corridor. The contribution was formally acknowledged by the European Union Delegation to Zambia, which commended the depth, clarity, and relevance of the interventions, noting their value in advancing discussions on sustainable economic growth and regional integration.

In addition, research outputs from ACESM were disseminated through the presentation of the GAIA-TSF (Geospatial Artificial Intelligence Analysis for Tailings Storage Facilities) work. The presentation outlined an advanced, interdisciplinary research framework that integrates satellite Earth observation data, machine learning, deep learning, and explainable AI (xAI) to improve monitoring, risk assessment, and decision-making for tailings storage facilities. The research addressed critical industry challenges, including fragmented data pipelines, stakeholder-relevant risk indicators, and the need for transparent, explainable analytics to support regulatory and operational decision-making in the mining sector.

3. **Occupational Health, Safety, and Environment (HSE) National Conference**

As a key stakeholder in the mining sector, ACESM was invited to take part in the 9th Occupational Health, Safety, and Environment (HSE) National Conference, held from **30th to 31st October 2025** at Protea Hotel by Marriott in Ndola. The conference was themed "Innovative Solutions to Zero

Harm: Technology and HSE-Exploring Emerging Technologies." In support of this engagement, ACESM facilitated the participation of two representatives from the School of Mathematics and Natural Sciences (SMNS**), Mr Patrick Hayumbu** and **Dr Mwaba Sifanu**, who presented a research paper titled "*The Occupational Environment of a Zambian Copper Mine: Mine Dust Exposure and Worker Safety Compliance*."

CENTRE FOR ACADEMIC DEVELOPMENT

Current Research Activities

1. **Ongoing research projects and initiatives**

- The Erasmus + SSATL ESD Project involving CBU and 14 other universities made progress in conducting a situation analysis, developing a teacher leadership professional development course, purchasing and installing a mini-ICT centre, and designing and launching an online community of practice. The course implementation starts in May 2026.
- CAD is developing two institutional quality assurance change projects supported by DIES on the National Multiplication Training (NMT) Course and the SADC TrainIQA project on Internal Quality Assurance. The NMT change project focuses on Assessment Guidelines that integrate Generative AI. The SADC TrainIQA change project is coordinating the development of a Quality Assurance Handbook. The network of support includes the German Academic Exchange Service (DAAD), the German Rectors' Conference (HRK), the Higher Education Authority (HEA), Cavendish University Zambia, Mulungushi University and Mukuba University.
- CAD, through the Quality Assurance Manager, is participating in the EU-funded project *Implementing Science for Non-Communicable Diseases (IS4NCDs).* This initiative represents a six-university collaboration involving the Copperbelt University, the University of Zambia, Stellenbosch University, and the University of the Witwatersrand in South Africa, together with two European partner universities. The IS4NCDs project is focused on developing a curriculum for implementation science in the field of non-communicable diseases (NCDs). It aims to strengthen institutional and regional capacity for NCD prevention and management through evidence-based approaches and collaborative training.

Research Grants and Funded Collaborative Projects

1. Details of funded projects, sources of funding, and status

- UNESCO Participation Programme (2024-2025) green learning project 'Capacity building initiative on curriculum for tackling cross-cutting issues for green learning' under the auspices of the UNESCO Chair. Thirteen institutions incubated 14 institutional change projects; the first cycle was completed. Applied for funds for the 2026-2027 biannual.
- The Erasmus + SSATL project (www.lead4esd.net) under the auspices of the UNESCO Chair is co-funded by the European Commission and runs until October 2027.
- Simuchimba G, **Musonda F** and Siamujompa M, Ration Production for fish farming, Zambia – Mozambique (Joint research grant under the Zambia-Mozambique bilateral agreement on research partnership programme), with support from the National Science and Technology Council (NSTC) and The Copperbelt University, 2025. Completed in June 2025.

Publications

1. Mwamba, E., Shumba, O., & Mulenga, H. (2025). Impacts of Formative Use of Rubrics on Secondary School Students' Academic Performance on Quadratic Equation Problems. Educational Assessment, 1–17. https://doi.org/10.1080/10627197.2025.2562801

Books And Book Chapters

1. Grant Simuchimba, Chikondi Banda-Thole and Felix F. Musonda, Bridging Tourism Benefits and Sustainable Local Development: Economic Impacts, Leakages and Settlement Dynamics around Kafue and South Luangwa National Parks, Zambia, *Sustainability, 2025.*

Future Research Plans

1. Planned or proposed research directions and projects

- Organise workshops for lecturers to help them navigate from outcomes-based teaching and learning to competence-based teaching and learning.
- Institutional research on documentation of CPDs taking place in various schools of the Copperbelt University and its impact on the professional growth of lecturers.
- Graduate tracer study to strengthen alumni engagement, assess graduate employability outcomes, evaluate the relevance of academic programmes to the labour market and support institutional planning and quality assurance.
- Exploring lecturer burnout and its impact on student learning

DAG HAMMRSJÖLD INSTITUTE FOR PEACE AND CONFLICT STUDIES

Peer-reviewed Journal Publications

(1) Chipimo, M.L., Bwalya, J., and Kanyanga, J.K. (2025). 'Strategic ESG Orientation and Financial Resilience in Emerging Markets'. *SEISENSE Business Review* 5(1), pp. 71-99. https://doi.org/10.33215/tsdwqy74

(2) Chipimo, M.L., Bwalya, J., and Kanyanga, J.K. (2025). 'The Role of ESG in Driving Firm Profitability: Implications for Stakeholder, Resource-Based View, and Triple Bottom Line Theories in Emerging Markets', *SEISENSE Journal of Management*, 8(1), pp.119-131. https://doi.org/10.33215/m1c78498

(3) Chipimo, M. L., Bwalya, J., and Kanyanga, J. K. (2025). 'A Mixed-methods Framework for Environmental, Social, and Governance Analysis: Insights from Emerging Markets', *Management of Sustainable Development*, 17(1), 70-91. https://doi.org/https://doi.org/10.54989/msd-2025-0005

(4) Chipimo, M. L., Bwalya, J., and Kanyanga, J. K. (2025). 'The Green Dilemma: When Environmental Good Depletes Financial Good in Emerging Economies', *SEISENSE Journal of Management,* 8(1), pp. 162-180. https://doi.org/10.33215/hbkg0g37

(5) Chipimo, M. L., Bwalya, J., and Kanyanga, J. K. (2025). 'Institutional Enablers of ESG Adoption in Sub-Saharan Africa: A Systematic Review of Sustainable Corporate Governance and Firm Performance', M*anagement of Sustainable Development,* 17(2), 105-118. https://doi.org/10.54989/msd-2025-0017

(6) Chinjili, K. and Fumpa-Makano, R. (2025). 'Zambia's Diplomatic Engagements in Southern Africa: From Liberation Struggles to Economic Diplomacy', *International Diplomatic Review Journal, 3(1)(2025), pp.37-61.* https://www.ajol.info/index.php/idrj/article/view/308204

(7) Kalanga, D., Yorke, G., and Chilufya, R. (2025). "Response of the United Church of Zambia to the 2010-2011 Shooting Incidents Involving the Linyungandambo Activists in light of the Barotseland Agreement", The Zambian Journal of Religious and Contemporary Issues, 4(3), pp. 67-82.

(8) Kalanga, D., Sakupapa, T., Yorke, G., and Chilufya, R. (2025). "The Role of the Church in Africa in Helping to Avert National Conflicts from Escalating into Violence", Scriptura: Journal of Theology and Contextual Hermeneutics, 124(1), pp. 1-23.

(9) Munene, H., & Kapesa, R. (2025). Trade unionism and decolonization in Africa: The Zambian experience, 1949–1964. *Labour History*, 1–16. https://doi.org/10.1080/0023656X.2025.2485320

Policy Brief

(1) Bwalya, J. *Enhancing Intraparty Democracy in Zambia*, Dag Hammarskjöld Institute Policy Brief No. Jb001, February 2025.

Peer-Reviewed Conference Papers and Presentations

(1) Bwalya, J. "Local Governance in the Global South – case from Zambia", a guest Lecture presented at the Tata Institute of Social Sciences, Mumbai, India, 11 September 2025.

(2) Chilufya, R. 'Bridging peace theories with experiential, reflective pedagogy for inclusive, transformative graduate learning space,' paper presented at the 2nd National Research and Innovation Symposium: "Setting the Agenda for Economic Transformation Through Research and Innovation" organized by Zambia's Ministry of Education and in collaboration with the Copperbelt University, held at Garden Court Hotel, Kitwe, Zambia, 2-5 December 2025

(4) Kamanga, S. and Chilufya, R. (2025, 2-5 December). 'Urban Flooding and Educational Vulnerability in Informal Settlements: A Mixed-Methods Study of Misisi Compound, Lusaka ', paper presented at the 2nd National Research and Innovation Symposium: "Setting the Agenda for Economic Transformation Through Research and Innovation" organized by Zambia's Ministry of Education and in collaboration with the Copperbelt University, held at Garden Court Hotel, Kitwe, Zambia, 2-5 December 2025.

(5) Manyoni, D. and Chilufya, R. (2025, 2-5 December). 'Relational resilience in climate-vulnerable agriculture: A mixed-methodology study of smallholder adaptation in Kaoma District, Zambia,' paper presented at the 2nd National Research and Innovation Symposium: "Setting the Agenda for Economic Transformation Through Research and Innovation" organized by Zambia's Ministry of Education and in collaboration with the Copperbelt University, held at Garden Court Hotel, Kitwe, Zambia, 2-5 December 2025.

(6) Munene, H. "Political Economy of De-industrialization in Africa: the Zambian Experience, 1991–2004", paper presented at the international colloquium on "Rural Transformation and the Nation: A Social, Labour, and Development History of Late and Post-colonial Africa," held by the History Department at the University of Geneva, Switzerland, 1–2 July 2025.

(7) Yorke, G. "A Call for the 'Triangulation' of Global Africa as Key to its Sustainable Development", paper presented at the International Conference of the Trans-Atlantic Roundtable on Religion and Race (TRRR), 7-11 July 2025, University of South Africa.

DIRECTORATE OF DISTANCE EDUCATION AND OPEN LEARNING

Current research activities

1. Evaluating the Germination and Early Growth of Pterocarpus chrysothrix for the Rehabilitation of Tailing Dam TD15A at Mopani Copper Mine PLC in Kitwe, Zambia [Journal of Land Development and Degradation; Under Review]

2. Spatial modelling of groundwater across the mining gradient in the Copperbelt Province of Zambia [Journal of Sustainable Environment, Under Review]

3. Climate-Smart Agriculture Adoption in Southern Province of Zambia: Gender-Based Barriers and Opportunities [Journal of Rural and Community Development, Under Review]

4. Bridging the Digital Divide: AI-Powered Personalized Learning for Marginalized Communities in Open and Distance Learning. (CBU funded)

5. Analyzing the Threats and Opportunities that Generative AIs Pose to the Traditional Distance and Open Education Systems in Universities.

6. Investigating the role and effectiveness of student support services in ODL: "The Case of the Copperbelt University"

7. Universities playing catch-up in the integration of AI in teaching, learning and Research as students lead the way: Experience from Zambian Higher Learning Institutions.

8. Importance of trust in managing diversity in higher education institutions: A case of Zambia.

9. Importance of trust in leadership in higher education institutions: A case of Zambia.

10. Importance of trust in HR Practices in higher education institutions: A case of Zambia.

Research grants and funded collaborative projects

1. Bridging the Digital Divide: AI-Powered Personalized Learning for Marginalized Communities in Open and Distance Learning. (CBU-funded) Ongoing research.

Peer-reviewed journal publications

1. Chaamwe, N. (2025). Investigating the Factors Influencing Students' Adoption of Generative AIs in Universities: A Case of the Copperbelt University. *Zambia ICT Journal*, *8*(1), 47–53. https://doi.org/10.33260/zictjournal.v8i1.340

Peer-reviewed conference paper and presentations

Papers presented at conferences (local and international)

1. Chaamwe N and Musonda A. Universities playing catch-up in the integration of AI in teaching, learning and Research as students lead the way: Experience from Zambian Higher Learning Institutions, 2nd National Symposium on Research and Innovation, 2nd to 5th December 2025 at Garden Court Hotel, Kitwe.

Future research plans

1. Writing a book on 'Homestead gardens for Food Security in A Developing City'.

LUSAKA CAMPUS

Current and Ongoing Research Activities

1. Chishimba, S.K. Chishimba (2026): *Does Gender Matter in Household Cooking Energy Choice and Expenditure in Zambia*

1. Chishimba, S.K. (2026): *Electricity Services Availability and its Effect on Children's Study Time Allocation at Household Level in Zambia*.

2. Choongo, P.; Lesa, C.N, Munyati, S.K.; Nyanja, N. *(In Press)*. *The Role of Digitalisation in Multiple Value Creation in Small and Medium-Sized Enterprises in Zambia. Book Chapter*.

3. Emiel L. Eijdenberg, Nsubili M. Isaga, Leonard J. Paas, Choongo, P., Masurel, E., Muleta, S.E. *(In Press). African businesses and multiple value creation Impact through technology and digitalisation*. ISBN: To be Allocated

4. Singoyi, F., Choongo, P., Lungu, J., Taylor, T.K, and Mwansa, C. *The historical perspective and current practices of minimum wage policy framework development and implementation in Zambia*. (Draft under review)

5. Simaundu, B. M., Titova, N., & Choongo, P. *(In Press)*. *Corporate Social Responsibility and Financial Performance of SME Suppliers and Contractors in the Mining Industry in Zambia: Direct and Mediating Effects of Entrepreneurial Leadership*. (Submitted to Sustainability).

6. Singoyi, F., Choongo, P., Lungu, J., Taylor, T.K, and Mwansa, C. *Effect of Minimum Wage on Employee Commitment Among Construction Workers in Zambia*. (Draft under review)

7. Singoyi, F., Choongo, P., Lungu, J., Taylor, T.K, and Mwansa, C. *Effect of Minimum Wage on Employee Engagement Among Construction Workers in Zambia*. (Draft being finalised)

8. Singoyi, F., Choongo, P., Lungu, J., Taylor, T.K, and Mwansa, C. *The Effect of Minimum Wage on Employee Turnover Intentions Among Construction Workers in Zambia*. (Draft under review)

9. Singoyi, F., Choongo, P., Lungu, J., Taylor, T.K, and Mwansa, C. *The Effect of Minimum Wage on Employee Welfare Among Construction Workers in Zambia*. (Draft under review).

10. Kaonga Sekela. M; *Exploring the Effect of Relationship Marketing Dimensions on Customer Retention in The Zambian Banking Industry*.

11. Kaonga Sekela. M: *Leadership and digital financial inclusion as drivers of sustainable development among Artisanal and Small-Scale Miners in Zambia*

12. Kaonga Sekela. M: *Inclusive Leadership and Invincible Disabilities: A Study of Workplace Practices in Selected Organisations in Zambia.*

Peer-reviewed Journal Publications

The following articles were published in recognised journals in 2025:

1. Chishimba, S. K., & Muchapondwa, E. (2025). *Credit constraints and willingness to pay for electricity among non-connected households in Zambia.* Energy for Sustainable Development, 85, 101601.

2. Chishimba, S. K., & Muchapondwa, E. (2025). *Gendered access to cooking energy solutions under multi-tier frameworks and its welfare effects in Zambia.* Environment and Development Economics, 1–22. https://doi.org/10.1017/s1355770x25100119

3. Choongo, P., Chileshe, M., Lesa, C. N., Mwiya, B., & Taylor, T. K. (2025). *Impact of Leadership Styles and Their Influences on the Growth of Fintech Start-ups in Zambia*. *New Advances in Business, Management and Economics, Vol. 7*, 86–117. https://doi.org/10.9734/bpi/nabme/v7/5309

Future Research Plans

The following are the future research plans involving selected Lusaka Campus staff:

(i) ***Sustaining Family and Community-Based Enterprises: Insights from Sub-Saharan African Contexts:***

This research project aims to investigate the sustainability of family and community-based enterprises in Sub-Saharan Africa, with data collection planned for Zambia and Tanzania.
The project team comprises Leo Paas and Marissa Kaloga from the University of Auckland in New Zealand; Emiel Eijdenberg from the University of Applied Sciences Utrecht in the Netherlands; Enno Masurel from VU University Amsterdam in the Netherlands; Subby Isaga from Mzumbe University in Tanzania; and Progress Choongo from Copperbelt University in Zambia.

The project has secured funding of $41,000, with the funding decision finalised in the first quarter of 2026.

(ii) ***Assessing the Competitiveness, Efficiency, and Willingness to Pay for Urban Waste Collection in Zambia's Cities:***

This study aims to evaluate the competitiveness, efficiency, and willingness to pay for urban waste collection services in selected cities in Zambia. The project participant is Dr Sydney Chishimba. The research proposal will be presented to the Senate for consideration and potential funding approval.

(iii) Theresa Nambaya. Assessing the Impact of the Constitution of Zambia (Amendment) Act No. 13 of 2025 on the Electorate – 2026 General Elections

ORTARChI
O.R. Tambo Africa Research Chairs Initiative

1. Research focus area

- ✓ **Key thematic and priority research areas**
  - Pollution & remediation and Socio-ecological landscape studies aiming at developing models for restoration of mining-generated landscape ecosystems in Zambia.

2. Collaborations and linkages

✓ **International partnerships (Collaborations)**: - seven international Collaborations

Name of collaborator	Institution	Research Area/ Discipline	Country	Nature of collaboration	Gender
Prof Lucky Sikhwivhilu & his team	MINTEK	Nano Technology	South Africa	Exchange visits, student supervision and access to laboratory equipment at MINTEK	Males and females
Prof Ravi Naidu	University of Newcastle	Environmental risk and remediation	Australia	Exchange visit, student supervision and access to his laboratory facilities	Male
Prof Murray Hitzman	Irish Centre for Research in Applied Geosciences (iCRAG) & University College Dublin	Applied geology	Ireland	Student supervision	Male
Prof. Mylor Shutcha	University of Lubumbashi	Phytoremediation	DRC	Student supervision and collaborative research	Male
Prof Susan Harrison	University of Cape Town	Environmental Risk Modelling	South Africa	Student supervision	Female
Dr Christopher G Bryan	BRGM	Bioremediation	France	Research collaboration and student supervision	Male
Prof. Olivier Hardy	Université libre de Bruxelles (ULB)	Evolutionary Biology and Ecology	Belgium	Research collaboration and student supervision	Male

✓ **Institutional and industry linkages**: - Four national and one international level

- MINISTRY OF ENERGY AND WATER LEVEL
- Lumwana Mining Company
- Kagen Mining LI and Dangote Cement Zambia Limited)
- JRS Biodiversity Foundation-(international).

3. Current research activities

✓ Ongoing research projects and initiatives: -

- Student research projects are progressing well, with a newly recruited cohort of one MPhil and nine PhD Chair-funded students aligned to thematic areas (Annex 1).
- Implementation of the MoU between CBU ORTARChI and CIFOR-ICRAF is ongoing, covering research on rock outcrops and truffles.
- A new JRS Biodiversity Foundation-funded project on wet savanna springheads has been launched.
- A research collaboration has been established with Université Libre de Bruxelles (Belgium) on the evolution of *Brachystegia* species.
- Completion of one PhD candidate: Mrs Mwale Chishaleshale (University of Pretoria), in which the Chair was involved as co-Supervisor.

4. Future research plans

✓ Planned or proposed research directions and projects

- Expansion of remediation research
- Enhanced aquatic pollution and risk modelling
- Integrated ecosystem and landscape modelling
- Biodiversity and genetic resource studies
- Socio-economic and land-use transformation analysis
- Climate change mitigation and adaptation research
- Integrated environmental monitoring and management systems
- Development of a regional centre of excellence for environmental risks and remediation studies (RCEERRS)

5. Research Grants and funded collaborative projects

✓ **Details of funded projects, sources of funding and status:** -

Name(s) of donor(s)/funder(s)	National/ Regional (Africa)/ International	Amount leveraged (R)
JRS Biodiversity Foundation	International Level	1,900,800
Ministry Of Energy & Water Level	National Level	52,920
Lumwana Mining Company	Conference on Smart Mining (international)	118,782
Kagem Mining Ltd	Conference on Smart Mining (international)	10,000
Dangote Cement Zambia Limited	Conference on Smart Mining (international)	66,080.50

6. Peer-reviewed journal publications

✓ **Article published in recognized journals in 2025**

- Thirteen (13) papers were published (Annex-2)

7. Book and Book chapters

✓ **Authored or co-authored publications**:

- One book proposal accepted: *Mining and Biodiversity in Africa: Pollution, conservation and reclaiming resilience in mining-degraded environments* (Springer Nature, and book manuscript in its final stage of preparation)

8. Peer-reviewed conference papers and presentations

✓ Paper presented at conference (local and international) =two (2)

S/no	Presenter	Title	Date	remarks
1.	Mary Mulenga	Nature-Based Advances in the Integration of Microalgae for Biomonitoring of Metal Pollution in Stream Ecosystems of Sub-Saharan Africa: Implications for Ecological Sustainability in the WEFE Nexus	10th-12th June 2025	Presented at the 13th Zambia Water Forum and Exhibition (Venue: Mulungushi International Conference)
2.	Eunice Zulu	A Comprehensive Review of Recent Advances in Membrane Innovations for Efficient Heavy Metal Removal from Mine Effluents.	10th-12th June 2025	

Annex-1: details of the newly recruited cohort of students (one MPhil candidate and 9 PhD candidates)

MPhil	**Neya Imikindu**	**Zambia**	**Male**	**March 2025**	**Mar, 2027**
Doctoral	Tresor Muganguzi	DRC	Male	March 2025	Mar, 2028
Doctoral	Daniel Nhunda Masumbuko	Tanzania	Male	March 2025	Mar, 2028
Doctoral	Emmanuel Chikalipa	Zambia	Male	March 2025	Mar, 2028
Doctoral	Denis Musiige	Uganda	Male	March 2025	Mar, 2028
Doctoral	Karim Mtengai	Tanzania	Male	March 2025	Mar, 2028
Doctoral	Kondwani Kapinga	Zambia	Male	March 2025	Mar, 2028
Doctoral	Mweemba Malawo	Zambia	Male	March 2025	Mar, 2028
Doctoral	Samson Omondi	Kenya	Male	March 2025	Mar, 2028
Doctoral	Kachiwale	Zambia	Male	March 2025	Mar, 2028

Annex-2: Articles published in recognized journals

S/no	**Title Of Article**	**Title of Journal and Volume**	**Authors**	**Remarks**
1.	Seasonal spatiotemporal trends of vegetation recovery in burned areas across Africa.	PLOS ONE. (https://doi.org/10.1371/journal.pone.0316472	Oswaldo Maillard, Natasha Ribeiro, Amanda Armstrong, Ana I. Ribeiro-Barros, Samora Macrice Andrew, Lucy Amissah, Zeinab Shirvani, Jonathan Muledi, Omid Abdi, Huascar Azurduy, João M. N. Silva, Stephen Syampungani, Hastings Shamaoma, Victorino Buramuge (2025)	Published
2.	Viability and desirability of financing conservation in Africa through fire management.	Nature Sustainability (https://doi.org/10.1038/s41893-024-01490-9)	Tony Knowles, Nicola Stevens, N'dri Brigitte, Emmanuel Chidumayo, Izak Smit, Gernot Ruecker, Glynis Humphrey, Duncan Kimuyu, Colin Courtney-Mustaphi, Gareth Hempson, Andy Dobson, Kate Parr, William Bond, Stephan Syampungani, Esther Ekua Amoako, Mohammed Armani, Navashni Govender, Luthando Dziba, Tercia Strydom, Sally Archibald (2025).	Published
3.	Spatiotemporal Response and Phytopotential of Typha domingensis for Management of Aquatic Metal Pollution on the Central African Copperbelt	Ecology and Evolution(https://doi.org/10.1002/ece3.71039)	Kennedy O. Ouma, Agabu Shane, Concillia Monde, Stephen Syampungani (2025)	Published
4.	Interactions of soil properties and dominant tree canopy species with vegetation recruitment within a mine wasteland of the Zambian Copperbelt	Forest Ecology and Management (https://doi.org/10.1016/j.foreco.2025.122498)	Arthur A. Owiny, Paxie W. Chirwa, Jules Christian Zekeng, Theodore Mulembo Mwamba, Stephen Syampungani (2025)	Published
5.	A comprehensive review of recent advances in membrane innovations for efficient heavy metal removal from mine effluents	Scientific African (https://doi.org/10.1016/j.sciaf.2024.e02510)	Eunice Zulu, Subbaiya Ramasamy, Keneiloe Khoabane Sikhwivhilu, Stephen Syampungani (2025)	Published
6.	Utility of UAS-LIDAR for estimating forest structural attributes of the Miombo woodlands in Zambia.	https://doi.org/10.1371/journal.pone.0315664	Hastings Shamaoma, Paxie W. Chirwa, Jules C. Zekeng, Abel Ramoelo, Andrew T. Hudak, F. Handavu, Stephen Syampungani (2025)	Published
7.	Benthic Macroinvertebrates as Bioindicators of Stream Health Within the Central African Copperbelt	Water Air Soil Pollut https://doi.org/10.1007/s11270-025-08004-z	Kennedy Ouma, Concillia Monde, Agabu Shane, Stephen Syampungani (2025)	Published
8.	Macrofauna-environment interactions and their potential in restoring degraded landscapes in the context of Sub-Saharan Africa: A review of current knowledge	Scientific African https://doi.org/10.1016/j.sciaf.2025.e03044	Mukanzala Kasimbo, Todd Johnson, Theodore M. Mwamba, Agnes Uwimbabazi, Stephen Syampungani (2025)	Published

9.	Microbial communities in mine waste contaminated soil of Sub-Saharan Africa: potential application for Eco remediation	Environ Geochem Health https://doi.org/10.1007/s10653-025-02906-x	Agnes Uwimbabazi, Subbaiya Ramasamy, Theodore M. Mwamba, Stephen Syampungani (2026)	Published
10.	Restoring degraded mine landscapes in Sub-Saharan Africa: Plant facilitatory mechanisms, strategies and knowledge gaps	Heliyon https://doi.org/10.1016/j.heliyon.2025.e44322	Arthur A. Owiny, Paxie W. Chirwa, Jules C. Zekeng, Theodore M. Mwamba, Stephen Syampungani (2026)	Published
11.	Native plant species screening for Phytogeographical exploration in the Zambian Copperbelt	Journal of Geochemical Exploration https://doi.org/10.1016/j.gexplo.2025.107914	Pumulo Mukube, Stephen Syampungani, Lerato Machogo-Phao, Murray Hitzman (2026)	Published
12.	Assessing forest fragmentation and biodiversity impacts in sub-Saharan Africa: Methodological challenges and conservation strategies for small-scale agricultural landscapes	Agrosyst Geosci Environ. DOI: 10.1002/agg2.70349	Gillie Cheelo, Hastings Shamaoma, Jules Christian Zekeng, Charles Bwalya Chisanga, Stephen Syampungani (2026)	Published
13.	Effects of meteorological variables on the oviposition of Phoracantha species in planted Eucalyptus grandis trees in Copperbelt province, Zambia.	International Journal of Tropical Insect Science https://doi.org/10.1007/s42690-026-01835-1	Obote Shakacite, Vincent R. Nyirenda, Jules Christian Zekeng, Theodore M. Mwamba, Stephen Syampungani,	Published