

# CURRICULUM VITAE

**Dr. Thomas T. KIVEVELE**

## SENIOR LECTURER IN CLEAN ENERGY TECHNOLOGIES



NELSON MANDELA AFRICAN INSTITUTION  
OF SCIENCE AND TECHNOLOGY (NM-AIST)  
SCHOOL OF MATERIALS, ENERGY, WATER  
AND ENVIRONMENTAL SCIENCES (MEWES)  
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### 1. PERSONAL PARTICULARS:

<b>Full name</b>	Thomas Thomas <b>KIVEVELE</b>
<b>Date of Birth</b>	January 11 <sup>th</sup> , 1980
<b>Marital Status</b>	Married
<b>Nationality</b>	Tanzania (Passport no. TAE019295)
<b>Place of Birth</b>	Makete - NJOMBE

### 2. BASIC EDUCATION:

Name of School	Award	Duration
Tandala Primary School	Primary School leaving certificate	1989 – 1995
Lupalilo Secondary School	Certificate of Secondary Education	1996 – 1999
Ifunda Technical Secondary School	Advanced Certificate of Secondary Education	2000 – 2002

### 3. PROFESSIONAL UNIVERSITY EDUCATION:

Name of the University	Award	Duration
Tshwane University of Technology, Pretoria, Republic of South Africa	PhD in Mechanical Engineering, majoring in Thermal Energy Engineering <b>Research topic:</b> “Experimental optimization of an air source heat pump dryer – design, manufacturing and performance analysis” <b>Supervisor:</b> Professor Zhongjie Huan	2013– 2015
Tshwane University of Technology, Pretoria, Republic of South Africa	Master of Technology in Mechanical Engineering ( <i>cum laude</i> ), majoring in Bio-Energy Engineering <b>Research topic:</b> “Oxidation stability of biodiesel from non-edible oils – production and analysis” <b>Supervisor:</b> Professor Makame M. Mbarawa	2010– 2011
University of Dar Es Salaam, United Republic of Tanzania	BSc. (Hons) in Electro-Mechanical Engineering	2003– 2007

### 4. FELLOWSHIPS/EXCHANGE/VISITING PROGRAMS:

Program name	Host University & Staff	Research/training topic	Duration
Excellence in Africa – Junior Faculty Development (Secondment programme)	Swiss Federal Institute of Technology Lausanne (EPFL), Laboratory of Sustainable and Catalytic Processing (LPDC)	Catalytic cross-ketonization of inedible/under-utilized vegetable oils towards renewable diesel (aviation fuel additives)	03 <sup>rd</sup> October – 26 <sup>th</sup> November, 2022

Faculty visiting program: African Centers of Excellence with Indian Institutes of Technology	Indian Institute of Technology, Roorkee, Department of Hydro and Renewable Energy, Professor R. P. Saini	Hydrokinetics technology for rural applications	October – November, 2019
The Fulbright African Senior Research Scholar Program (ASRSP)	Baylor University, Waco-Texas, USA Dr. Sunghwan Lee	Biodiesel production from water hyacinth of Lake Victoria origin	September – December 2018
DAMOC Project: Young Faculty Exchange Program	Karlstad University, Sweden Prof. Simone Fischer-Hübner	Training on smart grids, visited solar PV design and computer labs	November – December 2017

## 5. EMPLOYMENT RECORDS:

EMPLOYER NAME	POSITION	PERIOD
Nelson Mandela African Inst. of Science and Technology (NM-AIST), Tanzania	Senior Lecturer & Researcher of Clean Energy Technologies	June, 2020 to date
Nelson Mandela African Inst. of Science and Technology (NM-AIST), Tanzania	Lecturer & Researcher of Clean Energy Technologies	Feb.2016–May, 2020
Mbeya University of Science and Technology (MUST), Tanzania	Lecturer & Researcher – Refrigeration and air conditioning	Nov.2015–Jan. 2016
Tshwane University of Technology (TUT), Pretoria – South Africa.	Part-Time Lecturer & PhD Researcher	Jan. 2013–Nov. 2015
MERRYWATER LTD, Dar Es Salaam, Tanzania	Head of Power Division	Mar. 2011–Dec. 2012
MERRYWATER LTD, Dar Es Salaam, Tanzania	Service Engineer	Nov.2007–Dec. 2009

## 6. SHORT COURSES ATTENDED:

YEAR	COURSE NAME
June 2021 to May 2022	Digital Education Masterclass organized by Swiss Federal Institute of Technology in Lausanne (EPFL) and Mohammed VI Polytechnic University (UM6P) under Excellence in Africa (EXAF) Program.
October, 2017	Industrial and Societal Applications of Radiation Technologies and Radio-tracer, Global Centre for Nuclear Energy Partnership (GCNEP), New Delhi – India, facilitated by Tanzania Atomic Energy Commission (TAEC).
February, 2013	University teaching methodology, Tshwane University of Technology, South Africa
May, 2013	Geothermal power generation training course, Pretoria – South Africa
September 2012	Power Generating sets (troubleshooting and installation), MERRYWATER LTD, Dar Es Salaam, Tanzania.
July, 2011	Research Methodology Course, Tshwane University of Technology, South Africa
August, 2009	Power Generating sets (troubleshooting and installation), MERRYWATER LTD, Dar Es Salaam, Tanzania.
June, 2008	Power Generating sets (Sales), Nairobi – Kenya.

## 7. GENERAL UNIVERSITY RESPONSIBILITIES:

### 7.1 FACULTY RESPONSIBILITIES:

<ul style="list-style-type: none"> <li>✚ Carries out lectures, seminars, tutorials and practical</li> <li>✚ Sets, invigilates and marks undergraduate and postgraduate examinations</li> <li>✚ Guides junior staff in lecturing and conducting seminars, and tutorials</li> <li>✚ Supervises field work of the students</li> </ul>
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<ul style="list-style-type: none"> <li>✚ Conducts research and publishes results</li> <li>✚ Carries out consultancy and public services</li> <li>✚ Writes teaching materials, e.g., manuals, lecture slides etc.</li> <li>✚ Participates in the development of programmes/curricula and research proposals/projects</li> <li>✚ Organizes and participates in relevant workshops and conferences</li> </ul>
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## 7.2 ADMINISTRATIVE/TASK FORCE RESPONSIBILITIES AT NM-AIST:

YEAR / DURATION	ACTIVITY
Jan 2020 to date	Leader of Clean Energy Technologies Research Group under the school of Materials, Energy, Water and Environmental Sciences (MEWES).
Jan 2023 to date	Program coordinator (MSc and PhD in Sustainable Energy Science and Engineering – MSc and PhD SESE)
August 2020 – December 2022	Appointed as a Chairperson of the taskforce for Developing the Internationalization Management Policy (IMP) and Internationalization Management Strategy (IMS). The appointment is from August 2020 up to when the IMP and IMS are approved by the University Council and signed by the Chairperson of the Council.
2020 to date	Appointed to lead a component of Renewable Energy in the HEET (Higher Education for Economic Transformation) Project. This is a University project funded by the Government of Tanzania. The main objective of the project is to increase enrolment and improve the quality of labor market relevance of degree programs in priority disciplines in selected public universities and improve the management of the higher education system.
January 16 – February 28, 2020	Appointed as a member of task force to develop quality assurance tools; 1) teaching dossier, 2) employer satisfaction survey, 3) graduate exit survey, 4) peer observation guide, 5) tracer study questionnaire for graduates, 6) course evaluation form, and 7) research integrity framework (academic staff effectiveness in research). We received a letter of appreciation from the university for the good developed tools after approval by the Council.
April, 2019 to date	Appointed as a Member of the University Tender Board for 3 years (I am saving the second term as from April 2022).
March – September, 2019	Appointed as a Convener of the committee to oversee implementation process of connecting electricity (LUKU) and water meters to staff houses, PhD houses, rest houses, cafeterias and student hostels.
September, 2017	Appointed as a Chairperson of the evaluation committee for the tender of supply, delivery, installation and commissioning of 500 kVA Generator installed at the university (NM-AIST) premises.
April 1, 2017 to March 31, 2018	Appointed as a team member of the contract management for the tender of provision of transport services at the university.
June, 2016 to date	Head of Research and Innovation: African Center of Excellence in Water Infrastructure and Sustainable Energy Futures (WISE Futures) based at NM-AIST, Arusha – Tanzania.

## 8. PROJECTS UNDERTAKEN AS PRINCIPAL INVESTIGATOR (PI) OR CO-PI:

Project description	Project Value	Duration
<p><b>PI:</b> Development of Solar–biogas hybrid system for drying applications under African Research Initiative for Scientific Excellence (ARISE) programme Funded by the European Union. The ARISE programme is implemented by the African Academy of Sciences (AAS) with the European Commission and the African Union Commission as strategic oversight partners.</p>	€ 400,000	2022 - 2027

<b>CO-PI:</b> Exploiting the potential of solar-powered cooler for vaccine and perishable foods storage in remote areas of Sub-Saharan Africa (SSA). Funded by PASET Africa Regional Scholarship and Innovation Fund (RSIF) for Applied Sciences, Engineering and Technology. Project partners include Tshwane University of Technology (TUT), South Africa and Arusha Technical College, Tanzania.	US \$84,000.00	2021 - 2023
<b>PI:</b> Solar dryer integrated with energy storage system: An energy efficient and environmentally friendly technology for drying biomaterials in Tanzania under Partnerships for Enhanced Engagement in Research (PEER) Program. Funded by National Academies, USA. The US-based partner is Dr. Sughwan Lee from Purdue University and Dr. Scott James from Baylor University.	US \$136,916.00	2021 - 2023
<b>PI:</b> Exploiting the potential of underutilized plants and agricultural wastes in biofuels production: A pathway to reducing fuel/energy versus food competition in Africa. Excellence in Africa: Junior Faculty Development program (EXAF – JFD), funded jointly by École polytechnique fédérale de Lausanne (EPFL) Switzerland and Mohammed VI Polytechnic University (UM6P), Morocco.	CHF 719,971.00	2021 – 2026
<b>PI:</b> (NM-AIST): ERASMUS+ KA 107 Mobility project of the European Commission for higher education students and staff. Project partner is Technische Universität Dresden, German.	13 mobilities with the total value of € 57,104.00	01.08.2020 – 31.07.2023
<b>PI:</b> Solar-assisted heat pump dryer integrated with energy storage system for drying biomaterials, Grant ref: RSIF/RA/001, funded by PASET Africa Regional Scholarship and Innovation Fund (RSIF) for Applied Sciences, Engineering and Technology. Project partners include Alpha Thermal Process, LLC from USA.	US \$ 81,133.00	2020 - 2023
<b>Co-I:</b> Linking East and West African farming systems experience into a BELT of sustainable intensification (EWA BELT) Funded by European Union through HORIZON 2020 programme. Project reference no. 862848.	€ 194,000	2020 - 2024
<b>PI:</b> (NM-AIST): ERASMUS+ KA 107 Mobility project of the European Commission for higher education students and staff (Project reference no. 2019-1-HU01-KA107-060760); Project partners include Budapest University of Technology and Economics, Hungary, NM-AIST and Dar es Salaam Institute of Technology (Tanzania).	11 mobilities with the total value of € 35,000.00	2019 - 2022
<b>PI:</b> Solar-assisted Heat Pump Drying Technology for Industrial and Agricultural Applications in Tanzania. Funded by Tanzania Commission for Science and Technology (COSTECH).	TZS 100,947,000.00	2019 - 2021
<b>PI:</b> Evaluation of suitability of water hyacinth from Lake Victoria-Tanzania as a feedstock for Biofuel Production. Project Grant No. 17-495 RG/CHE/AF/AC_G – FR3240297727 funded by The World Academy of Sciences (TWAS)	US \$ 40,915.00	2018 – 2019
<b>CO-PI:</b> (NM-AIST): DAMOC Project - Development of a HArmonized MOdular Curriculum for the Smart Grid funded by European Union through Erasmus+ programme, Project N°:	€ 882,397.00 (NM-AIST Budget = €131,845.00)	2016 – 2019

574173-EPP-1-2016-1-DE-EPPKA2-CBHE-JP. Project partners include Dresden Technical University (German, Coordinator), Karlstad University (Sweden), Università degli Studi Guglielmo Marconi (Italy), University of Dar Es Salaam and NM-AIST (Tanzania), University of Pretoria, Stellenbosch University and Cape Peninsula University of Technology (South Africa).		
<b>Head of Research and Innovation (Co-Investigator):</b> The African center of Excellence in Water Infrastructure and Sustainable Energy Futures (WISE – Futures) at the Nelson Mandela African Institution of Science and Technology (NM-AIST). Funded by the World Bank under its Eastern and Southern Africa Centers of Excellence (ACE II) initiative coordinated by the Inter University Council of East Africa (IUCEA).	US \$ 6,000,000.00 (Performance based project)	2016 – 2020
<b>CO-PI:</b> Establishing a Graduate School of Nuclear Science and Technology at the Nelson Mandela African Institution of Science and Technology (NM-AIST) in collaboration with Tanzania Atomic Energy Commission (TAEC) funded by the International Atomic Energy Agency (IAEA). Project no. URT0007.	€ 334,080.00	2018 – 2019

## 9. AREAS OF SPECIALTY:

SPECIALTY	LEVEL, INSTITUTION, COUNTRY
Electro-Mechanical Engineering	Undergraduate level, at UDSM, Tanzania
Turbo machines	Teaching a course at TUT, South Africa
Biofuels	Master's degree level at TUT, South Africa
Engine performance	Master's degree program at TUT, South Africa and Budapest University of Technology and Economics (BUTE), Hungary
TDI engine exhaust emissions	Master's degree program at TUT, South Africa and BUTE, Hungary
TDI engine combustion characteristics	Master's degree program at TUT, South Africa and BUTE, Hungary
Oxidation stability of biodiesel	Master's degree program at TUT and Indian Institute of Technology (IIT), Kanpur - India
Refrigeration and air conditioning	Teaching a course at MUST, Tanzania
Passive solar energy technology	Teaching a course at NM-AIST, Tanzania
Heat pump drying technology	Doctoral degree level at TUT, South Africa
Hydraulic machines	Teaching a course at TUT, South Africa
Fluid mechanics	Teaching a course at TUT, South Africa
Strength of materials	Teaching a course at TUT, South Africa
Renewable energy technologies	Teaching a course at NM-AIST, Tanzania.

## 10. MEMBERSHIP OF PROFESSIONAL INSTITUTIONS:

YEAR / DURATION	NAME OF THE INSTITUTION
2022 – to date	Professional Member, Tanzania Renewable Energy Association (TAREA)
2007 – to date	Engineers Registration Board (ERB), Tanzania: Graduate Member no. 3112
2007 – to date	Institution of Engineers Tanzania.

## 11. COURSES DEVELOPED/TAUGHT

Excellent presentation skills have been exercised in the teaching, examining and moderation of the following courses since 2013 at tertiary level in Tanzania and South Africa.

COURSE NAME	UNIVERSITY NAME	LEVEL	DURATION
Solar Energy Systems for Buildings and Cities (SESE 7232)	Nelson Mandela African Institution of Science and Technology, Tanzania	PhD	Jan, 2021 to date (Semester I)
Passive Solar Energy Technology (SESE 6222/7222)	Nelson Mandela African Institution of Science and Technology, Tanzania	MSc and PhD	June, 2016 to date (Semester I)
Renewable Energy Technology (SESE 6102/7102)	Nelson Mandela African Institution of Science and Technology, Tanzania	MSc and PhD	June, 2016 to date (Semester II)
Refrigeration and Air conditioning (MEB 8216)	Mbeya University of Science and Technology, Tanzania	B.Sc. 4 <sup>th</sup> Year	Semester II 2015/2016
Hydraulic Machines III (HYM 301T)	Tshwane University of Technology, South Africa	National Diploma	Semester I 2015
Strength of Materials III (SMT 331T).	Tshwane University of Technology, South Africa	National Diploma	Semester II 2014
Turbo Machines IV (TRM 401T)	Tshwane University of Technology, South Africa	Bachelor of Technology	Semester I 2013 and 2014
Fluid Mechanics IV (FMS 411T)	Tshwane University of Technology, South Africa	Bachelor of Technology	Semester II 2013

## 12. AREAS OF RESEARCH INTERESTS:

<ul style="list-style-type: none"> <li>✚ Biofuels production from various feedstock</li> <li>✚ Oxidation stability of biofuels</li> <li>✚ Renewable energy resources</li> <li>✚ Air-borne emissions in heat and power generations</li> <li>✚ Combustion characteristics in CI engines</li> <li>✚ Utilization of bio-waste for fuel applications</li> <li>✚ Heat pumps and refrigeration technologies</li> <li>✚ Environmental-friendly refrigerants</li> <li>✚ Bio-materials drying technologies/heat pump drying</li> <li>✚ Energy management and auditing</li> </ul>
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## 13. PUBLICATIONS

YEAR	PUBLICATIONS IN PEER-REVIEWED SCIENTIFIC JOURNALS:
2023	<ol style="list-style-type: none"> <li>1. BAKARI, R., KIVEVELE, T., MASAWA, S.M., HUANG, X. &amp; JANDE, Y.A.C. 2023. Assessment of rice husk biomass from different agro-ecological zones of Tanzania for biofuels feasibility via supercritical water gasification, <i>Biomass and Bioenergy</i>, 173 (2023) 106771; <a href="https://doi.org/10.1016/j.biombioe.2023.106771">https://doi.org/10.1016/j.biombioe.2023.106771</a>.</li> <li>2. KICHONGE, B. &amp; KIVEVELE, T. (2023). Viability of Non-Edible Oilseed Plants and Agricultural Wastes as Feedstock for Biofuels Production: A Techno-economic Review from an African Perspective, <i>Biofuels, Bioproducts and Biorefining</i>, <a href="https://doi.org/10.1002/bbb.2489">doi.org/10.1002/bbb.2489</a>.</li> <li>3. MWALONGO, D.A., HANEKLAUS, N.H., CARVALHO, F.P., LISUMA, J.B., KIVEVELE, T., MTEI, K.M. 2023. Influence of phosphate fertilizers on the radioactivity of agricultural soils and tobacco plants in Kenya, Tanzania, and Uganda, <i>Environmental Science and Pollution Research</i>, ACCEPTED 6-May-2023.</li> <li>4. LOEMBA, A.B.T., KICHONGE, B., SELEMANI, J.R., KIVEVELE, T. 2023. Performance evaluation of solar-assisted heat pump dryer integrated with thermal energy storage for drying Moringa Oleifera leaves, <i>MRS Advances</i>, DOI: 10.1557/s43580-023-00580-8.</li> </ol>

	<p>5. KAKOKO, L.D., JANDE, Y.A.C., <b>KIVEVELE, T.</b> 2023. Experimental investigation of soapstone and granite rocks as energy-storage materials for concentrated solar power generation and solar drying technology, <i>ACS OMEGA</i>. ACCEPTED 04-May-2023.</p> <p>6. SULEIMAN, S.A., POGREBNOI, A., <b>KIVEVELE, T.T.</b> 2023. Influence of duct configurations on the performance of solar-assisted heat pump dryer for drying tobacco leaves, <i>International Journal of Photoenergy</i>, ACCEPTED 05-May-2023.</p>
2022	<p>7. LOEMBA A.B.T, KICHONGE B, &amp; <b>KIVEVELE T.</b> (2022) Comprehensive assessment of heat pump dryers for drying agricultural products. <i>Energy Science and Engineering</i>., 1-30. doi:10.1002/ese3.1326.</p> <p>8. MWALONGO, D.A., NILS H. HANEKL, N.H., LISUMA, J. B., KIVEVELE, T. T &amp; MTEI, K.M. 2022. Uranium in phosphate rocks and mineral fertilizers applied to agricultural soils in East Africa, <i>Environmental Science and Pollution Research</i>, <a href="https://doi.org/10.1007/s11356-022-24574-5">https://doi.org/10.1007/s11356-022-24574-5</a>.</p> <p>9. ZAKARIA, F., LUJAJI, F. &amp; <b>KIVEVELE, T.</b> 2022. Rheological and Physicochemical Analysis of Nonedible Oils Used for Biodiesel Production, <i>ACS OMEGA</i>, DOI: 10.1021/acsomega.2c02960.</p> <p>10. KARIIM, I., SWAI, H., &amp; <b>KIVEVELE, T.</b> 2022. Recent advances in thermochemical conversion of biomass into drop-in fuel: a review, <i>Scientific African</i> 17 (2022) e01352, DOI: 10.1016/j.sciaf. 2022.e01352</p> <p>11. MBUYA, B.H., DIMOVSKI, A., MERLO, M. &amp; <b>KIVEVELE, T.</b> 2022. Very Short-Term Blackout Prediction for Grid-Tied PV Systems Operating in Low Reliability Weak Electric Grids of Developing Countries, <i>Complexity</i>, DOI: 10.1155/2022/4763820</p> <p>12. <b>KIVEVELE, T. T.</b> 2022. Propane (HC – 290) as an Alternative Refrigerant in the Food Transport Refrigeration Sector in Southern Africa – a Review, 2022. <i>Automotive Experiences</i>, 5(1), 75-89, DOI: 10.31603/ae.5994.</p> <p>13. BAKARI, R., <b>KIVEVELE, T.</b>, HUANG, X. &amp; JANDE, Y.A.C. 2022. Catalytic supercritical water gasification of biomass waste using iron-doped alkaline earth catalysts, <i>Biomass Conversion and Biorefinery</i>, doi.org/10.1007/s13399-022-02800-x</p> <p>14. FARAJI A, JANDE YAC, &amp; <b>KIVEVELE T.</b> 2022. Performance analysis of a runner for gravitational water vortex power plant. <i>Energy Science and Engineering</i>, 2022;00:1–12. doi:10.1002/ese3.1085.</p> <p>15. KAPILE, F.A., BERECZKY, A., NTALIKWA, J.W. &amp; <b>KIVEVELE, T.T.</b> 2022. Comprehensive Analysis of Fuel Properties of Adansonia digitata Methyl Ester with the Influence of Nanoparticle Additives Extracted from an Agricultural Waste. <i>Waste and Biomass Valorization</i>, doi.org/10.1007/s12649-021-01670-0</p>
2021	<p>16. KIVUMBI, B., JANDE, Y.A.C., KIRABIRA, J. B and <b>KIVEVELE, T.T.</b> 2021. Water Boiling Test of carbonized briquettes produced from charcoal fines using African Elemi (<i>Canarium schweinfurthii</i>) resin as an organic binder, <i>Biomass Conversion and Biorefinery</i>, DOI: 10.1007/s13399-021-02000-z.</p> <p>17. KIVUMBI, B., JANDE, Y.A.C., KIRABIRA, J. B and <b>KIVEVELE, T.T.</b> 2021. Production of carbonized briquettes from charcoal fines using African Elemi (<i>Canarium Schweinfurthii</i>) resin as an organic binder, <i>Energy Sources, Part A: Recovery, Utilization, and Environmental Effects</i>, DOI: 10.1080/15567036.2021.1977870.</p> <p>18. RAMADHANI, B., <b>KIVEVELE, T.</b>, HUANG, X. &amp; JANDE, Y. A. C. 2021. Sub- and supercritical water gasification of rice husk: parametric optimisation using I-optimality criterion. <i>ACS Omega</i>, 6 (19), 12480-12499, DOI: 10.1021/acsomega.0c06318</p> <p>19. PHILIPO, G., JANDE Y.A.C. &amp; <b>KIVEVELE, T.T.</b> 2021. Clustering and Fuzzy Logic-Based Demand-Side Management for Solar Microgrid Operation: Case Study of</p>

	<p>Ngurudoto Microgrid, Arusha, Tanzania. <i>Advances in Fuzzy Systems</i>, DOI: <a href="https://doi.org/10.1155/2021/6614129">https://doi.org/10.1155/2021/6614129</a></p> <p>20. MWANYIKA, H.H, JANDE, Y.A.C &amp; <b>KIVEVELE T.</b> 2021. Design and Performance Analysis of Composite Airfoil Wind Turbine Blade, <i>Tanzania Journal of Science</i>, 47(5): 1701-1715.</p> <p>21. ROBERT ELIRAISON MOSHI, R. E., <b>KIVEVELE, T. T.</b> and JANDE, Y. A. C. 2021. The Exergy Analysis for the Air Gasification in a Hybrid Fixed Bed Gasifier, <i>Current Journal of Applied Science and Technology</i>, 40(18): 18-30.</p> <p>22. MOIRANA, R.L., <b>KIVEVELE, T.</b>, MKUNDA, J., MTEI, K. &amp; MACHUNDA, L. 2021. Trends towards Effective Analysis of Fluorinated Compounds Using Inductively Coupled Plasma Mass Spectrometry (ICP-MS). <i>Journal of Analytical Methods in Chemistry</i>. DOI: <a href="https://doi.org/10.1155/2021/8837315">https://doi.org/10.1155/2021/8837315</a>.</p> <p>23. MROPE H. A, JANDE, Y.A.C &amp; <b>KIVEVELE, T.T.</b> 2021. A Review on Computational Fluid Dynamics Applications in the Design and Optimization of Crossflow Hydro Turbines, <i>Journal of Renewable Energy</i>, Volume 2021, Article ID 5570848</p>
2020	<p>24. MISSANA, W. P., PARK, E &amp; <b>KIVEVELE, T. T.</b> 2020. Thermal Performance Analysis of Solar Dryer Integrated with Heat Energy Storage System and a Low-Cost Parabolic Solar Dish Concentrator for Food Preservation, <i>Journal of Energy</i>, DOI: <a href="https://doi.org/10.1155/2020/9205283">https://doi.org/10.1155/2020/9205283</a>.</p> <p>25. RAMADHANI, B., <b>KIVEVELE, T.</b>, HUANG, X. &amp; JANDE, Y. A. C. 2020. Simulation and optimization of the pyrolysis of rice husk: Preliminary assessment for gasification applications, <i>Journal of Analytical and Applied Pyrolysis</i>, 150,104891, DOI: <a href="https://doi.org/10.1016/j.jaap.2020.104891">https://doi.org/10.1016/j.jaap.2020.104891</a>.</p> <p>26. KARUNGI, A., POGREBNOI, A. &amp; <b>KIVEVELE, T.</b> 2020. Investigation of Rheological Behavior of Untreated and Microwave-Assisted Alkaline Pretreated Sugarcane Straw for Biofuel Production. <i>Waste and Biomass Valorization</i>, DOI: <a href="https://doi.org/10.1007/s12649-020-01139-6">https://doi.org/10.1007/s12649-020-01139-6</a>.</p> <p>27. RAMADHANI, B., <b>KIVEVELE, T.</b>, KIHEDU, J.H. &amp; JANDE Y.A.C. 2020. Catalytic tar conversion and the prospective use of iron-based catalyst in the future development of biomass gasification: a review. <i>Biomass Conversion and Biorefinery</i>, DOI: <a href="https://doi.org/10.1007/s13399-020-00814-x">https://doi.org/10.1007/s13399-020-00814-x</a>.</p> <p>28. MOSHI, R. E, JANDE, Y. A. C., <b>KIVEVELE, T. T</b> &amp; KIM, W. S. 2020. Simulation and performance analysis of municipal solid waste gasification in a novel hybrid fixed bed gasifier using Aspen plus, <i>Energy Sources, Part A: Recovery, Utilization, and Environmental</i>, DOI: 10.1080/15567036.2020.1806404.</p> <p>29. MADAI, I. J., JANDE, Y. A. C. &amp; <b>KIVEVELE, T.</b> 2020. Fast Rate Production of Biodiesel from Neem Seed Oil Using a Catalyst Made from Banana Peel Ash Loaded with Metal Oxide (Li-CaO/Fe<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>), <i>Advances in Materials Science and Engineering</i>, DOI: <a href="https://doi.org/10.1155/2020/7825024">https://doi.org/10.1155/2020/7825024</a>.</p> <p>30. TEMBA, N.W., <b>KIVEVELE, T.</b>, &amp; POGREBNAYA, T. 2020. Cryptogamic Packed Biofilter as Potential Adsorbent for CO<sub>2</sub>, NH<sub>3</sub>, and H<sub>2</sub>S Impurities from Biogas, <i>Journal of Energy</i>, DOI: <a href="https://doi.org/10.1155/2020/8514607">https://doi.org/10.1155/2020/8514607</a>.</p> <p>31. HANCE, V., <b>KIVEVELE, T.</b> &amp; NJAU, K.N. 2020. Modification of municipal wastewater for improved biogas recovery, <i>Water Practice &amp; Technology</i>, DOI: <a href="https://doi.org/10.2166/wpt.2020.055">https://doi.org/10.2166/wpt.2020.055</a>.</p> <p>32. PETRO, L.M., MACHUNDA, R., TUMBO, S. &amp; <b>KIVEVELE, T.</b> 2020. Theoretical and experimental performance analysis of a novel domestic biogas burner, <i>Journal of Energy</i>, DOI: <a href="https://doi.org/10.1155/2020/8813254">https://doi.org/10.1155/2020/8813254</a>.</p>



	<p>33. SEMBA, M., CHRISOSONI P., <b>KIVEVELE T.</b>, RWIZA, M.J. &amp; NJAU, K. 2020. Performance Investigation of the Slaughterhouse Wastewater Treatment Facility: A Case of Mwanza City Slaughterhouse, Tanzania, <i>Water Practice &amp; Technology</i>, DOI: <a href="https://doi.org/10.2166/wpt.2020.085">https://doi.org/10.2166/wpt.2020.085</a>.</p> <p>34. PHILIPO, G., JANDE Y.A.C. &amp; <b>KIVEVELE, T.T.</b> 2020. Demand Side Management of solar microgrids operation: Effect of time of use pricing and incentives. <i>Journal of Renewable Energy</i>, DOI: <a href="https://doi.org/10.1155/2020/6956214">https://doi.org/10.1155/2020/6956214</a>.</p> <p>35. <b>KIVEVELE, T.</b>, RAJA, T., PIROUZFAR, V., WALUYO, B., &amp; SETIYO, M. 2020. LPG-Fueled Vehicles: An Overview of Technology and Market Trend. <i>Automotive Experiences</i>, 3(1), 6-19. DOI: <a href="https://doi.org/10.31603/ae.v3i1.3334">https://doi.org/10.31603/ae.v3i1.3334</a>.</p> <p>36. KIRUNGI, A., POGREBNOI, A. &amp; <b>KIVEVELE, T. T.</b> 2020. Optimization of microwave-assisted alkali pretreatment followed by acid hydrolysis of sugarcane straw for production of acetone-butanol-ethanol. <i>Energy Sources, Part A: Recovery, Utilization, and Environmental Effects</i>, DOI: 10.1080/15567036.2020.1760404.</p> <p>37. <b>KIVEVELE, T.T.</b> 2020. Storage and thermal stability of biodiesel produced from manketti nut oil of Southern Africa origin with the influence of metal contaminants and antioxidants. <i>Springer Nature: Applied Sciences</i>, 2:930; DOI: <a href="https://doi.org/10.1007/s42452-020-2743-y">https://doi.org/10.1007/s42452-020-2743-y</a>.</p>
2019	<p>38. WAWERU, E.J., POGREBNAYA, T. &amp; <b>KIVEVELE, T.T.</b> 2019. Effect of Antioxidants Extracted from Clove Wastes and Babul Tree Barks on the Oxidation Stability of Biodiesel made from Water Hyacinth of Lake Victoria Origin, <i>Waste and Biomass Valorization</i>, 11(11), 5749-5758; DOI: <a href="https://doi.org/10.1007/s12649-019-00871-y">https://doi.org/10.1007/s12649-019-00871-y</a>.</p> <p>39. MBUYA, B., MONCECCHI, M., MERLO, M. &amp; <b>KIVEVELE, T.</b> 2019. Short-term load forecasting in a hybrid microgrid: a case study in Tanzania, <i>Journal of Electrical Systems</i>, 15(4), 593-606.</p> <p>40. NABORA, C, S., KING'ONDU, C. K., &amp; <b>KIVEVELE, T.T.</b> (2019). <i>Tamarindus Indica</i> fruit shell ash: a low cost and effective catalyst for biodiesel production from <i>Parinari curatellifolia</i> seeds oil. <i>Springer Nature: Applied Sciences</i>, 1: 253. DOI: <a href="https://doi.org/10.1007/s42452-019-0256-3">https://doi.org/10.1007/s42452-019-0256-3</a>.</p>
2016	<p>41. <b>KIVEVELE, T. T.</b>, HUAN, Z., KRISTOF, L., BERECHKY, A., &amp; MBARAWA. M. M. 2016. Impact of antioxidant additives on the engine performance and exhaust emissions using biodiesel made from jatropha oil of Eastern Africa origin. <i>R &amp; D Journal of the South African Institution of Mechanical Engineering</i>, 32, 1–8.</p>
2015	<p>42. <b>KIVEVELE, T. T.</b> and HUAN, Z. 2015. Influence of metal contaminants and antioxidant additives on storage stability of biodiesel produced from non-edible oils of Eastern Africa origin (<i>Croton megalocarpus</i> and <i>Moringa oleifera</i> oils). <i>Fuel</i>, 158, 530–537. DOI: <a href="https://doi.org/10.1016/j.fuel.2015.05.047">https://doi.org/10.1016/j.fuel.2015.05.047</a>.</p> <p>43. <b>KIVEVELE, T. T.</b> and HUAN, Z. 2015. An analysis of fuel properties of fatty acid methyl ester from manketti seeds oil. <i>International Journal of Green Energy</i>, 12(4), 291–296. DOI: <a href="https://doi.org/10.1080/15435075.2014.886579">https://doi.org/10.1080/15435075.2014.886579</a>.</p> <p>44. <b>KIVEVELE, T. T.</b> and HUAN, Z. 2015. Review on the stability of biodiesel produced from less common vegetable oils of African origin. <i>South African Journal of Science</i>, 111(9/10), 25–31. DOI: <a href="http://dx.doi.org/10.17159/SAJS.2015/20140434">http://dx.doi.org/10.17159/SAJS.2015/20140434</a>.</p>
2014	<p>45. <b>KIVEVELE, T. T.</b> and HUAN, Z. 2014. A review on opportunities for the development of heat pump drying systems in South Africa. <i>South African Journal of Science</i>, 110(5/6), 37–47. <a href="http://dx.doi.org/10.1590/sajs.2014/20130236">http://dx.doi.org/10.1590/sajs.2014/20130236</a>.</p>

	46. <b>KIVEVELE, T. T.</b> and HUAN, Z. 2014. Mungongo seeds oil ( <i>Schinziophyton rautanenii</i> ) as a potential source of bio-diesel. <i>Applied Mechanics and Materials</i> , 472, 780–784. DOI: <a href="https://doi.org/10.4028/www.scientific.net/AMM.472.780">https://doi.org/10.4028/www.scientific.net/AMM.472.780</a> .
<b>2013</b>	47. <b>KIVEVELE, T. T.</b> and HUAN, Z. 2013. Effects of antioxidants on cetane number, viscosity, oxidation stability and thermal properties of biodiesel produced from non-edible Oils. <i>Energy Technology</i> , 1(9), 537–543. DOI: <a href="https://doi.org/10.1002/ente.201300072">https://doi.org/10.1002/ente.201300072</a> .
<b>2011</b>	48. <b>KIVEVELE, T. T.</b> , MBARAWA, M. M., BERECZKY, A., LAZA, T., & MADARASZ, J. 2011. Impact of antioxidant additives on the oxidation stability of biodiesel produced from croton megalocarpus Oil. <i>Fuel Processing Technology</i> , 92(6), 1244–1248. DOI: <a href="https://doi.org/10.1016/j.fuproc.2011.02.009">https://doi.org/10.1016/j.fuproc.2011.02.009</a> . 49. <b>KIVEVELE, T. T.</b> , KRISTOF, L., BERECZKY, A., & MBARAWA, M. M. 2011. Engine performance, exhaust Emissions, and combustion characteristics of a CI engine fuelled with croton megalocarpus methyl ester with antioxidant. <i>Fuel</i> , 90(8), 2782–2789. DOI: <a href="https://doi.org/10.1016/j.fuel.2011.03.048">https://doi.org/10.1016/j.fuel.2011.03.048</a> . 50. <b>KIVEVELE, T.</b> , AGARWAL, A., GUPTA, T., and MBARAWA, M. 2011. Oxidation stability of biodiesel produced from non-edible oils of African origin, <i>SAE Technical Paper</i> 2011-01-120, DOI: <a href="https://doi.org/10.4271/2011-01-1202">https://doi.org/10.4271/2011-01-1202</a> .
<b>2010</b>	51. <b>KIVEVELE, T. T.</b> , & MBARAWA, M. M. 2010. Comprehensive analysis of fuel properties of biodiesel from croton megalocarpus Oil. <i>Energy &amp; Fuels</i> , 24(11), 6151–6155. DOI: <a href="https://doi.org/10.1021/ef100880g">https://doi.org/10.1021/ef100880g</a> .
<b>PEER-REVIEWED BOOKS/MONOGRAPHS (INCL. PUBLISHED DOCTORAL THESES):</b>	
<b>2011</b>	1. <b>KIVEVELE T.T.</b> 2011. Oxidation stability of biodiesel from non-edible oils. master's dissertation, Tshwane University of Technology, South Africa. <a href="http://tutvital.tut.ac.za:8080/vital/access/manager/Repository/tut:2113">http://tutvital.tut.ac.za:8080/vital/access/manager/Repository/tut:2113</a> .
<b>2015</b>	2. <b>KIVEVELE T. T.</b> 2015. Experimental optimization of an air source heat pump for drying South African fruits. Doctoral Thesis, Tshwane University of Technology, South Africa. <a href="http://tutvital.tut.ac.za:8080/vital/access/manager/Repository/tut:2187">http://tutvital.tut.ac.za:8080/vital/access/manager/Repository/tut:2187</a> .
<b>PEER-REVIEWED CONFERENCE PROCEEDINGS:</b>	
<b>2015</b>	1. <b>KIVEVELE, T. T.</b> and HUAN, Z. 2015. Influence of ambient conditions, refrigerant charge and condenser fan speed on thermal performance of an air source heat pump for drying fruits. In the 24 <sup>th</sup> IIR International Congress of Refrigeration (ICR2015), 16 <sup>th</sup> – 22 <sup>nd</sup> August 2015, Yokohama, Japan. Paper ID: 244. 2. <b>KIVEVELE, T. T.</b> and HUAN, Z. 2015. Experimental comparative study of an open and completely closed air source heat pump for drying sub-tropical fruits. In 2015 Proceedings of the 12th Industrial and Commercial Use of Energy Conference (ICUE), 17 – 19 <sup>th</sup> August 2015, Cape Town, published by Cape Peninsula University of Technology (CPUT), South Africa, p. 232 – 238.
<b>2014</b>	3. <b>KIVEVELE, T. T.</b> HUAN, Z. and ZHANG, M. 2014. Air source heat pump system for drying biomaterials. In 2014 Proceedings of the 11 <sup>th</sup> Industrial and Commercial Use of Energy Conference (ICUE), 18 – 20 <sup>th</sup> August 2014, Cape Town, published by Cape Peninsula University of Technology (CPUT), South Africa, p. 241 - 247.
<b>2013</b>	4. <b>KIVEVELE, T. T.</b> , HUAN, Z. and FAYOSE, F. F. 2013. Heat pump drying – a review. In 2013 Proceedings of the 10th Industrial and Commercial Use of Energy Conference (ICUE), 19 <sup>th</sup> – 21 <sup>st</sup> August 2013, Cape Town, published by Cape Peninsula University of Technology (CPUT), South Africa, p. 189-197.

<b>PATENTS AND LICENSES:</b>	
<b>2019</b>	<ol style="list-style-type: none"> <li>PETRO, L.M., <b>KIVEVELE, T. T.</b>, TUMBO, S. &amp; MACHUNDA, R. 2019. Gas burner manifold assembly. Patent no. TZ/P/2019/000086, registered by Business Registrations and Licensing Agency (BRELA) – Tanzania.</li> <li>HANCE, V., <b>KIVEVELE, T. T.</b> &amp; NJAU, K. 2019. Optimizing anaerobic digestion of municipal waste water for biogas production. Patent no. TZ/P/2019/000102, registered by Business Registrations and Licensing Agency (BRELA) – Tanzania.</li> </ol>
<b>INTERNATIONAL CONFERENCES (ORAL PRESENTATIONS): ABSTRACT-REVIEWED:</b>	
<b>2022</b>	1. LOEMBA A.B.T, KICHONGE B., SELEMANI, J.R. & <b>KIVEVELE, T.T.</b> 2022. Performance evaluation of solar-assisted heat pump dryer integrated with thermal energy storage for drying Moringa Oleifera leaves, The 11 <sup>th</sup> International Conference of the African Materials Research Society (AMRS2022), Université Cheikh Anta Diop, Dakar, Senegal 12-15 December 2022.
<b>2021</b>	2. KIVUMBI, B., JANDE Y.A.C., KIRABIRA, J.B. & <b>KIVEVELE, T.T.</b> 2021. Production of carbonized briquettes from charcoal fines using african elemi resin as a binder, 2021 Virtual AfInMic Student Microscopy Symposium.
<b>2019</b>	<ol style="list-style-type: none"> <li>MBUYA, B., PHILIPO, G., MONCECCHI, M., MERLO, M. &amp; <b>KIVEVELE, T.T.</b> 2019. Deep Learning Load Forecasting and Fuzzy Logic EMS: Jumeme minigrid Lake Victoria-Tanzania. In International Conference on Energy, Aquatech and Sustainability (ICEAS) held from 9 to 13<sup>th</sup> August, 2019 at NM-AIST, Arusha, Tanzania.</li> <li>PHILIPO, G., MBUYA, B., JANDE, Y.A.C., &amp; <b>KIVEVELE, T.T.</b> 2019. Time of Use and incentive based Demand Side Management: Case study of Ngurudoto-Microgrid in Arusha-Tanzania. In International Conference on Energy, Aquatech and Sustainability (ICEAS) held from 9 to 13<sup>th</sup> August, 2019 at NM-AIST, Arusha, Tanzania.</li> </ol>
<b>2017</b>	5. MOSHI, R.E., <b>KIVEVELE T.</b> , & JANDE Y.A. C. 2017. Municipal Solid Waste to Energy: Challenges and Opportunities in Tanzania. In International Conference on Energy and Sustainability (ICES 2017) held from 8 to 12 <sup>th</sup> August 2017 at NM-AIST, Arusha-Tanzania.
<b>2016</b>	6. <b>KIVEVELE, T.</b> 2016. Long storage stability of biodiesel made from croton megalocarpus oil with the influence of metal contaminants. In BALEWARE (Bridging Africa, Latin America and Europe on Water and Renewable Energy Applications) Conference on Sustainable Energy and Clean Water, 11 – 13 <sup>th</sup> Dec. 2016, NM-AIST, Arusha – Tanzania.
<b>KEYNOTE SPEAKER/SPEECH:</b>	
2022	<b>World Science Forum</b> , 6 – 9 <sup>th</sup> December 2022, Cape town International Conference Center, Thematic Session IV/e: Challenges of Urbanization: Food Security in Africa. <i>Talk: The role of solar dryers on food securing in urban Africa</i>
2020	The 2 <sup>nd</sup> <b>Borobudur International Symposium (BIS)</b> , organized by Universitas Muhammadiyah Magelang, Indonesia (held virtually), 18 <sup>th</sup> November, 2020. <i>Talk: Potential of African Local Plants for Biofuel Production and influence of COVID-19 Pandemic</i>

#### 14 STUDENT SUPERVISION:

<b>Master's level</b>		
<b>Name &amp; student no.</b>	<b>Research topic</b>	<b>Graduation</b>
Christian Nabora (Tanzanian) – M.324/T16	Biodiesel production from <i>parinari curatollifelia</i> seeds oil using basic heterogeneous catalyst derived from <i>Tamarindus indica</i> fruit shells (principal supervisor)	2019

Mohammed Haji (Tanzanian) – M286/T15	Performance Analysis of Installed Solar PV System Using Homer in Tanzania: A Case Study of Zanzibar and Arusha (Co-supervisor)	2019
Nickson John (Tanzanian) – M320 / T16	Performance analysis of standalone solar PV panel: case study of Arusha, Tanzania (principal supervisor)	2019
Wencelaus Missana (Tanzanian) – M313/T16	Thermal performance analysis of solar dryer integrated with heat energy storage system and low cost parabolic solar dish concentrator for food preservation (principal supervisor)	2022
Gelion Mgaya (Tanzanian) – M.312/T16	Performance and Economics Simulative Comparison between Air and Water Cooled Photovoltaic Systems (principal supervisor)	Ongoing
Godiana Philipo (Tanzanian) – M481/T17	Development of demand side management system for an isolated solar micro-grid using micro-controller (principal supervisor)	2020
Acheles Kirungi (Ugandan) – M480/UGA17	Production of Acetone-Butanol-Ethanol (ABE) from Sugarcane Straw through Optimized Microwave-Assisted Alkali Pretreatment (principal supervisor)	2020
Binyoh Langhe Theodore (Cameroonian) – M533/CAM17	Efficient Production of Bioethanol from Banana Pseudostem (principal supervisor)	Ongoing
Emmanuel J. Waweru (Tanzanian) –M534/T.17	Influence of antioxidant additives on stability of biodiesel derived from Water Hyacinth of Lake Victoria origin (principal supervisor)	2020
Ismail J. Madai (Tanzanian) – M.457/T17	Production of Biodiesel from Neem Seed Oil using Banana Peels as a biobase catalyst (Co-supervisor)	2020
Lucia M. Petro (Tanzanian)	Optimization of Domestic Biogas Stove Burner for Effective Energy Utilization (Co-supervisor)	2020
Norbert W. Temba (Tanzanian) – M477/T.17	Purification of biogas from anaerobic batch digester using cryptogamic intergrated biofilter (Co-supervisor)	2020
Vaileth Hance (Tanzanian) – M495/T.17	Integration of the energy recovery system in municipal wastewater treatment value chain: A case study of Moshi municipality, Tanzania (Co-supervisor)	2020
Salum Abdulkarim Suleiman (Tanzanian)	Performance evaluation of solar collector assisted heat pump dryer for drying tobacco leaves (co-supervisor)	Ongoing
Francisca Zakarila (Tanzanian) – M037/T.19	Rheological analysis of non-edible oils of african origin used for biodiesel production	Ongoing
Lilian Deusdedit Kakoko (Tanzanian) - M011/T20	Investigation of soapstone and granite natural rocks as energy-storage materials for concentrated solar power generation and solar drying technology (Principal supervisor)	ongoing
Nancy K. Kalage (Tanzanian) - M010/T20	Performance evaluation of solar-assisted heat pump dryer and fungal load reduction in maize and groundnuts	ongoing
Thani Rashid Said (Tanzanian) - MO24/T20	Power Capacity Optimization of grid-connected renewable energy hybrid system: Case study of Tumbatu Island Zanzibar Tanzania	ongoing

PhD level	Research topic	Graduation
Robert Eliraison (Tanzanian) – P.165/T.15	Design and Performance Investigation of a Novel Municipal Solid Waste (MSW) Gasifier (Co-supervisor)	2022
Benson Mbuya (Tanzanian) – P.223/T.16	Distributed Energy Management System for Rural Hybrid Microgrid (principal supervisor)	Ongoing
Ramadhani Bakari (Tanzanian) –P230/T.16	Catalytic Tar Cracking by Using Iron Nanoparticles Catalyst and Rice Husk Char During Biomass Gasification (Co-supervisor)	2022
Hegespo Mwanyika (Tanzanian) – P253/T.17	Numerical optimization of small horizontal axis wind turbine's aerodynamic system (principal supervisor)	Ongoing
Adam Faraji Mfangavo (Tanzanian) – P251/T.17	Computational and Experimental Performance Analysis of Runner for Gravitational Water Vortex Power Plant (principal supervisor)	Ongoing
Benard Kivumbi (Ugandan) – P272 / UGA.17	Organic binders and ignition agents for carbonized briquettes (principal supervisor)	2022
Christopher T. Warburg (Tanzanian) – P.225/T.16	Assessment of the Potential of Solar PV Power Output in Tanzania (Co-supervisor)	Ongoing
Hamis A. Mrope (Tanzanian) – P252/T.17	Design and performance improvement of high efficiency crossflow hydro turbine for rural electrification (Co-supervisor)	Ongoing
Sophia Bakili (Tanzanian) – P.226 /T.16	Sustainable Synthesize of furfural from maize cobs using TiO <sub>2</sub> /Nb <sub>2</sub> O <sub>5</sub> (Co-supervisor)	Ongoing
Fredrick Kapile (Tanzanian) –P013/T.18	Performance, emissions and combustion characteristics of diesel engine using <i>Uapaca kirkiana</i> methyl ester with nano additives extracted from rice husk (principal supervisor)	Ongoing
Ishaq Kariim (Nigerian) - P037/NG.20	Performance investigation of Nano-hybrid catalysts in microwave-induced co-pyrolysis of biomass/polymer for bio-jet fuel production	Ongoing
Dennis Mwalongo (Tanzanian) - P015/T.19	Investigation of Uranium Derived from Phosphate Rocks and Phosphate Fertilizers Applications in Agricultural Soil of East Africa (Co-supervisor)	ongoing
Aldé Belgard Tchicaya Loemba (Congolees) - P027/BG19	Techno-economic analysis of solar-assisted heat pump dryer integrated with thermal energy storage system for drying biomaterials (Principal supervisor)	ongoing
Evordius Laurent Rulazi (Tanzanian) - P026/T20	Performance optimization of solar dryer integrated with thermal energy storage system for drying agricultural products (Principal supervisor)	ongoing
Isack Kandola (Tanzanian) - P029/T20	Application of natural materials (volcanic ashes, Naldosoito red rocks, same kaolinite clay) based heterogeneous solid catalytic for conversion of glycerol to value-added products (Principal supervisor)	ongoing
Nicholaus Moyo (Tanzanian) - P017/T.20	Modeling and real time simulation of islanded microgrid with distributed renewable energy resources.	ongoing
Exaud Tweve (Tanzanian) - P018/T21	Power Quality Improvement of Solar Microgrids Using a Novel Demand-Side Energy Management Model. (A Case of Tanzania Breweries Limited Mbeya)	ongoing

Henry Kahimbi (Tanzanian) - PO54/T21	Development of Predictive Model for Determining the Mass of Natural Antioxidant Extracted from Uapaca kirkiana to be Added in Biodiesel for Improving Oxidation Stability.	ongoing
Michael Jackson Kyando (Tanzanian) - P026/T21	Effects of compressed natural gas as vehicular fuel on engine oil quality and performance of aged spark ignition engine	ongoing
Moses George Moyo (Tanzanian) - P031/T21	Improvement of thermo-mechanical properties of refractory lining by the combined effect of multi-layered materials and coating application	ongoing
Tafadzwa Cecilia Nkhoma (Zimbabwean)- P049/ZW21	Design of a modified biomass-based catalyst for the catalytic production of biokerosene.	ongoing
Vicent Marwa (Tanzanian) - P011/T21	Designing and performance optimization of solar powered cooler for vaccines in off-grid remote areas.	ongoing
Wilson Leonidas Mahene (Tanzanian) - P042/T21	Catalytic Cross-Ketonization of Triglycerides with Short Chain Carboxylic Acids Towards Renewable Diesel.	ongoing

## 15 EXAMINATION OF DISSERTATIONS/THESES FOR M.Sc. AND PhD STUDENTS:

Masters dissertations/theses			
Student name	Dissertation/thesis title	University	Year
Lynder E. Gesase	<i>Manihot Glaziovii</i> Bonded and Bioethanol Infused Charcoal Dust Briquettes: Production and Thermal Studies	NM-AIST	2019
Benedicto Joseph	Semi-transparent Building Integrated Photovoltaic Panel: Performance Evaluation in Arusha tropics, Tanzania	NM-AIST	2019
Kizito P. Mwilongo	Effect of Elevated Temperature on Properties of Neem Seed Husk Ash Concrete	NM-AIST	2020
Thandiwe Bongani Radebe	Numerical investigation and optimization of thermal characteristics of a phase change material eutectic plate in transport refrigeration	TUT, South Africa	2020
Amour Othman Muhunzi	Enhancing the Performance of a Spray Flash Evaporation Integrated with Evacuated Tube Desalination System	NM-AIST	2020
Doctorate dissertations/theses			
Vennan Sibanda	Design of a reconfigurable Guillotine shear and bending press machine	TUT, South Africa	2020
Edwin Ndibalema Richard	Sustainable municipal solid wastes management for resource recovery	NM-AIST	2021

## 16 AWARDS:

YEAR/DURATION	TYPE OF AWARD
2020/2021	Best Innovator of the year 2020/2021, Nelson Mandela African Institution of Science and Technology (NM-AIST), Awarded a Certificate and a Trophy.
2019/2020	Best worker of the financial year 2019/2020 in the category of "Academic Staff" at The Nelson Mandela African Institution of Science and Technology (NM-AIST), Awarded a Certificate and TZS 150,000.00.

September – December, 2018	Fulbright Scholarship to undertake research at Baylor University, Waco-Texas, United States of America on investigating the suitability of water hyacinth from Lake Victoria – Tanzania for production of biofuels. Fulbright program is funded by the Government of United States of America under the Department of State.
January, 2013	The Tshwane University of Technology (TUT) and National Research Foundation (NRF-South Africa) Scholarships to pursue Doctoral degree in Mechanical Engineering (Energy), Pretoria, South Africa.
May, 2012	S2A3 Bronze Medal (Institutional best master's student award), Tshwane University of Technology - South Africa, issued by Southern Africa Association for the Advancement of Science (S2A3).
November, 2011	Faculty's runner-up (second prize) for the top publication award 2011, Tshwane University of Technology, South Africa.
January, 2010	The Tshwane University of Technology (TUT) Scholarship to pursue Master's degree in Mechanical Engineering, Pretoria, South Africa.
September, 2003	Tanzania Government Scholarship to pursue B.Sc. degree in Electro-Mechanical Engineering at the University of Dar Es Salaam.

#### 17 SELECTED CONSULTANCY WORKS:

YEAR/DURATION	DETAILS OF CONSULTANCY WORKS
November 2020 to March 2021	Consultancy for comparative assessment of application of energy-efficient irrigation technologies versus diesel pump and other types of irrigation technologies in Kilimanjaro region, Tanzania. Client: Tanzania Horticultural Association (TAHA).
March 2017– June 2017	Construction of proposed artificial wetland for Mwanza city abattoir effluent treatment integrated with bio-digester. The main task was supervising bio-digester fabrication & installation, Client: Lake Victoria Environmental Management Programme (LVEMP).
Feb – May, 2015	Performance and Emissions Testing of R404A food transport refrigeration unit using natural refrigerant (R290) – simulations and experiments. Tshwane University of Technology, Transfrig & GIZ, South Africa.
Jan – Sept, 2012	Sizing, supply, installation and commissioning of $\approx 4$ MW power generators (2 x 2000 kVA, synchronized), Golden Jubilee Towers (PSPF), Dar Es Salaam – Tanzania
May. 2007 – Dec. 2012	Sizing, supply, installation and commissioning of various sizes of power generators to new branches of CRDB Bank PLC in Tanzania.

#### 18 INDUSTRIAL PRACTICAL TRAININGS / PLACEMENTS:

YEAR/DURATION	ROLE / ACTIVITIES
29 <sup>th</sup> April 2021 – 28 <sup>th</sup> May 2021	<b>Academic Staff Industrial Placement:</b> MERRYWATER LIMITED, Dar Es Salaam – Tanzania under Higher Education Partnership in Sub-Saharan Africa (HEP SSA) project. The aim is establishing a platform for industry-academia partnerships in addressing sustainable development challenges. Through this partnerships, Higher Learning Institutions can improve curricula and teaching practices, hence produces engineers, technicians and artisans with hands-on experience for addressing challenges that are facing the industries and society.
May, 2007 – October, 2007	<b>Production Engineer Trainee</b> at Aluminium Africa Ltd (ALAF), Dar Es Salaam – Tanzania. After my Bachelor degree I had an opportunity to work as a

	graduate engineer at ALAF. The works undertaken under this role was supervising technicians at roofing sheet making machine/plant, scheduling maintenance and supervising repair of the machine/plant.
July, 2006 – August, 2006	<b>Engineer Trainee</b> at Tanzania Breweries Limited (TBL), Dar Es Salaam. The work undertaken under this practical training included change parts optimization at packer machine, maintenances, design and managerial works.
June, 2005 – July, 2005	<b>Practical Training as Technician</b> at Tanzania – China Friendship Textile Company Limited, Dar Es Salaam, Tanzania. During this practical training, I was tasked to investigate performance of the centralized refrigeration and air conditioning system for possible improvements. Other duties attended included electrical motor installations and carrying out daily maintenance activities.
June, 2004 – July, 2004	<b>Practical Training as Technician Trainee</b> at Wakulima Tea Company (WATCO), Tukuyu, Mbeya – Tanzania. The work performed during this practical training included fabrications of various mechanical engineering components through casting, welding, machining and other processes. The project under this training was on designing and manufacturing a leaf spreader. Similarly, I gained experience on maintenance of machines.

## 19 SYNERGISTIC ACTIVITIES:

YEAR/DURATION	ROLE / ACTIVITIES
December, 2019 to date	<b>Editorial board member:</b> Journal of Automotive Experiences <i><a href="http://journal.ummg.ac.id/index.php/AutomotiveExperiences/about/editorialTeam">http://journal.ummg.ac.id/index.php/AutomotiveExperiences/about/editorialTeam</a></i>
10 – 13 <sup>th</sup> December, 2019.	<b>Secretary of the Scientific Committee</b> for the 10 <sup>th</sup> Conference of the African Materials Research Society (AMRS) held at NM-AIST, Arusha, Tanzania.
2016, 2017, 2018 and 2019	<b>Member of the organizing team</b> for the 2016, 2017, 2018 and 2019 Nuclear Workshop “Basics and Applications of Nuclear Technology for Socio-Economic Development” held at Nelson Mandela African Institution of Science and Technology (NM-AIST) during Mandela Week (Second week of July) in collaboration with Tanzania Atomic Energy Commission (TAEC).
11 <sup>th</sup> – 13 <sup>th</sup> December, 2016	<b>Chairperson of the local organizing committee</b> for the 2016 BALEWARE (Bridging Africa, Latin America and Europe on Water and Renewable Energy Applications) Conference on Sustainable Energy and Clean Water, held at the NM-AIST – Arusha, Tanzania.
9 <sup>th</sup> – 12 <sup>th</sup> August, 2017	<b>Member of the organizing committee</b> for the 2017 International conference on Energy and Sustainability (ICES 2017), held at the NM-AIST, Arusha.
13 – 14 <sup>th</sup> July 2017	<b>Member of the organizing committee</b> for the Secondary School Science fair held at NM-AIST, Arusha – Tanzania with the purpose of promoting science, technology, engineering and mathematics (STEM) to secondary school students.
4 – 8 <sup>th</sup> Dec. 2017	<b>Member of the organizing committee</b> for the 1 <sup>st</sup> International Conference on Water Infrastructure and Sustainable Energy Futures in a Changing Environment held at the NM-AIST - Arusha, Tanzania.

## 20 ATTENDED WORKSHOPS/SEMINARS:

YEAR/DURATION	WORKSHOP/SEMINAR NAME
17 <sup>th</sup> – 21 <sup>st</sup> February 2020	Regional training of trainers workshop (PHASE II) on quality supervision of postgraduate studies, held at Nairobi Club Hotel - Kenya, organized by Inter-University Council for East Africa (IUCEA).



26 – 30 <sup>th</sup> August 2019	Regional training of trainers workshop (PHASE I) on quality supervision of postgraduate studies, held at Four Points Hotel, Arusha – Tanzania, organized by Inter-University Council for East Africa (IUCEA).
3 <sup>rd</sup> – 7 <sup>th</sup> June 2019	Training workshop on improving pedagogical skills to academic staff who lacks educational background held at the National Council for Technical Education (NACTE), Dar es Salaam, organized by Tanzania Commission for Universities.
8 – 9 <sup>th</sup> April 2019	Training workshop on outcome based/demand driven curriculum design, development and review held at Sokoine University of Agriculture (SUA), Morogoro - Tanzania organized by Tanzania Commission for Universities.
28 <sup>th</sup> – 31 <sup>st</sup> August 2018	Research Grants Workshop – Building Skills for Science in Africa organized by The World Academy of Sciences (TWAS), Dar Es Salaam – Tanzania.
6 – 9 <sup>th</sup> March. 2018	Workshop on Self-assessment of Research Reactors Safety, organized by the International Atomic Energy Agency (IAEA), Department of Nuclear Safety and Security, Vienna, Austria.
30 <sup>th</sup> Oct. – 3 <sup>rd</sup> Nov. 2017	Workshop on Industrial and Societal Applications of Radiation Technologies and Radio-tracer, Global Centre for Nuclear Energy Partnership (GCNEP), New Delhi – India, facilitated by Tanzania Atomic Energy Commission (TAEC).
19 – 24 <sup>th</sup> March 2017	Kick-off meeting and workshop on Development of a HArmonized MOdular Curriculum for the Smart Grid funded by European Union through Erasmus+ programme (DAMOC PROJECT), Dresden – German.
12 – 16 <sup>th</sup> September 2016	Workshop on establishing national networks for Nuclear Education, Science and Technology (NEST), conducted at Tanzania Atomic Energy Commission (TAEC), Arusha – Tanzania with members from AFRA-NEST and IAEA.
11 – 12 <sup>th</sup> August, 2016	The World Intellectual Property Organization (WIPO) Seminar on Appropriate Technology, NM-AIST – Arusha, Tanzania.
13 – 14 <sup>th</sup> July 2016	Scientific Symposium on the “Conservation of African Biodiversity”, held at (NM-AIST) – Arusha, Tanzania.

## 21 COMPUTER SKILLS:

Microsoft Windows and Microsoft office

Programming Language: Pascal.


**Software packages:** LabVIEW, Designing Expert, Engineering Equation Solver (EES), Flownex, VapCyc (VC) – vapour compression cycle simulation software, CoilDesigner (CD) – heat exchangers coil designer software, AutoCAD, Solid Works.

## 22 REFEREE:

Available upon request

## 23 CERTIFICATION:

I, the undersigned, certify that to the best of my knowledge and belief, these biodata correctly describe my qualifications, my experience and myself

Signature: 

**Date:** June 1, 2023