

CURRICULUM VITAE

GENERAL PARTICULARS

NAME: ELIAS PETER MWAKILAMA **SEX:** MALE **MARITAL STATUS:** SINGLE

DATE OF BIRTH: 13TH JUNE, 1988 **NATIONALITY:** MALAWIAN

CONTACT ADDRESS: University of Malawi-Chancellor College, Faculty of Science, Mathematical Sciences Department, P.O. Box 280, Zomba, Malawi.

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POSITION: Associate Lecturer in Mathematics & Statistics-November 2012 to date

ACADEMIC QUALIFICATIONS & AWARDS/HONOURS

Academic Qualifications

1. Master of Science in Mathematical Sciences (Pending), University of Malawi, 2015
Thesis title: *Constructing Optimal Routes for IFT Ambulances using the Dijkstra-based TDD model: A Case study of Zomba District Health Office.*
2. Bachelor of Science (Statistics and Mathematics) with Distinction, University of Malawi, 2012.
Statistics project title: *Assessment of Risk factors of Obstetric fistula on Women in Malawi.*
Mathematics project title: *Transport Optimization Model of Retail Distribution: Zomba Bakery Case Study.*
3. Certificate in Summer School on Financial Mathematics and Actuarial Sciences, University of Buea-Cameroon, 2013.
4. Certificate in proposal development, M&E, writing skills and project management, Catholic Commission for Justice and Peace (CCJP) Malawi, 2009.
5. Certificate in Data Management, Analysis and Interpretation in Research Studies using SPSS, STATA, R and CPro, Chanco Statistics Society, 2011.
6. Certificate in Capacity Building Workshop covering Spirituality of Justice and Peace, Politics, Governance and Democracy & Tackling Poverty Together Project, CADECOM, 2010.
7. Certificate in Scientific paper presentation at The 42nd International Conference on Operational Research applied to Health Services (ORAHS), Pamplona (Spain), July, 2016.
8. Certificate in The CODATA-RDA School of Research & Data Science, ICTP-Trieste, Italy, 2016

Awards/Honours

1. Health Capacity Strengthening Initiative (HCSI) undergraduate research grant by National Commission for Science & Technology, 2012

2. African Development Bank bursary award on Master of Science degree programme (at Chancellor College), 2013.
3. African Institute Millennium Mathematics (AIMMS) Master's degree bursary award (at Chancellor College), 2013.
4. African Union-department of human resources, Sciences and Technology in Addis-Ethiopia conference attendance sponsorship (Travel & Conference grant), in Cotonou, Benin, 2013.
5. CIMPA travel grant to SAMSA 2013 conference, at Stellenbosch, Cape Town, South Africa, 2013.
6. University of Buea travel grant to Third Buea International Conference on the Mathematical Sciences and a Summer School on Financial and Actuarial Mathematics with Applications to Industries, Cameroon, 2013.
7. Chancellor College Research grant award on departmental research projects on Pure & Applied Mathematics Projects, 2014.
8. African Academy of Sciences travel and lodging grant support to AAS/AMU pre-symposium school and Symposium on "Current Research Trends in Mathematical Sciences and applications at UNESCO-National Mathematical Research Centre, Abuja-Nigeria, 2016.
9. The Association of Commonwealth Universities travel and lodging grant support to ICTP-Trieste, Italy on "The CODATA-RDA School of Research Data Science" from August 1 – August 12, 2016.
10. Chancellor College Faculty of Science best student Dean's List awardee in 2nd, 3rd & 4th year.

CONFERENCE/WORKSHOP PRESENTATIONS

Conference

1. **Mwakilama, E.** & Kazembe, L. 2012. "Preliminary results on Assessment of Risk factors of Obstetric fistula on Women in Malawi"-16th College of Medicine Dissemination conference for promoting Health Population in Blantyre-Malawi, 2012
2. **Mwakilama, E.** & Kazembe, L. 2013. "Assessment of Risk factors of Obstetric fistula on Women in Malawi" full paper- International Conference on Application of Statistics for Development in Africa in Cotonou-Benin, 2013.
3. **Mwakilama, E.** & Eneya, L. 2012. "Preliminary results on Transport Optimization Model of Retail Distribution: Zomba Bakery Case Study"-SAMSA 2012 conference for strengthening Mathematics and its Application in developing countries in Lilongwe-Malawi, 2012.
4. **Mwakilama, E.** & Eneya, L. 2013. "Full paper on Transport Optimization Model of Retail Distribution: Zomba Bakery Case Study"- Third Buea international conference on the Mathematical Sciences in Buea-Cameroon-2013.
5. **Mwakilama, E.** & Eneya, L. 2013. "On finding optimal routes for a distributor with time dependent travel times: A vehicle Routing Problem" – SAMSA 2013 conference for strengthening Mathematics and its Application in developing countries in Cape Town, South Africa.
6. Matope, A. & **Mwakilama, E.** 2013. "Factors affecting levels of knowledge on pre-mature births among women in Malawi"- the 55th Annual conference of the South African Statistics Society- The Ranch, Polokwane-South Africa.

7. **Mwakilama, E.** & Faulin, J. 2015. “Quasi-Optimal Routing of Ambulances: A Case study and Analysis for Zomba Central Hospital Catchment area” – 27th European Conference on Operational Research, Glasgow, UK.
8. **Mwakilama, E.**, Mtumbuka, F. & Samikwa, E. 2015. “Managing emergency cases for rural parts of Malawi using e-health system- a combinatorial optimization approach”– HEI-ICI workshop on Inverse Problems Africa 2015, Dar es salaam , Tanzania.
9. Aron, M., **Mwakilama, E.** & Namangale, J. 2015. “Modeling waiting and service time for patients: a case study of Matawale Health Centre, Zomba – Malawi”– ICMS 2015: 17th International conference on Mathematics and Statistics, Cape Town, South Africa.
10. **Mwakilama, E.**, Mtumbuka, F & Samikwa, E. 2015. “Use of e-mobile technology in building risk and disaster management systems in Malawi”– The National Symposium on Environment, Climate Change and Disaster Risk Management, Cross Roads, Lilongwe.
11. **Mwakilama, E.**, Dindi, S., Eneya, L., Valent, T. & Gwaligwali, J. 2015. “Optimal Route Design and Adaptive allocation in Malawi Cities: A case study of Lilongwe City”- SAMSA 2015 conference for strengthening Mathematics and its Application in developing countries, Namibia.
12. **Mwakilama, E.**, Faulin, J. 2015. “Quasi-optimal routing of ambulances: A case study and analysis for Zomba central hospital catchment area”-27th European Conference on Operational Research, Glasgow, UK, 12-15 July, 2015.
13. Sindie, R., **Mwakilama, E.** & Namangale, J. 2016: “The negative impacts of first line Antiretroviral drugs on HIV patients: a comparative analysis of 1A, 2A and 5A Regimen: Case study of Zomba Central Hospital”-2016 Statistical Association of Malawi National Conference, College of Medicine, Blantyre.
14. **Mwakilama, E.**, Faulin, J. & Eneya, L. 2016. “Constructing Optimal Routes for IFT Ambulances using the Dijkstra-based TDD model: A Case study of Zomba District Health Office.”- 42th International Conference on Operational Research applied to Health Services, Pamplona (Spain), 24-29 July, 2016.

Workshop Facilitations

1. **Facilitator** of SPSS and Project Management Short Course in Research Designs and Data Analysis training workshop organized by National Aids Commission (NAC), Malawi, Chikho Hotel, Kasungu, June 2014.
2. **Facilitator** of Questionnaire Design and Data Analysis workshop by Invest in Knowledge Research Organization, Zomba, Malawi, August 2014.
3. **Facilitator** of Short Course Training in data analysis using SPSS and STATA workshop by Department of Mathematical Sciences, Chancellor College, September 2014.
4. **Facilitator** of Short course in M&E, Financial & Project Management training workshop by Invest in Youth Initiative Organization, Zomba, Malawi, May 2015.
5. **Facilitator** of Research & Data Analysis using SPSS, STATA & EXCEL training workshop by Pi Research Centre (PRC), Lilongwe, Malawi, June 2015.
6. **Facilitator** of Data Entry and Analysis workshop by Catholic Commission for Justice and Peace, Zomba, Malawi, July 2015.
7. **Facilitator** of Questionnaire design Short Course in CSPro with Ministry of Agriculture-Agro-economic survey department, Malawi, Lilongwe, November 2015.

8. **Facilitator** of Questionnaire design, data entry and analysis in CSPro, SPSS and Stata Short Course by Departments of Human Resources, Malawi, Pacific Hotel, Lilongwe, 2016.
9. **Facilitator** of Short Course Training in data analysis using SPSS workshop for postgraduate and teaching staff of Political & Administrative Studies Department by Department of Mathematical Sciences, Chancellor College, August 2016.
10. **Facilitator** of Short Course Training in Fundamentals of ICT and Excel to staff of ESCOM workshop with Department of Computer Sciences, Mangochi, August-September 2016.

Peer Reviewed Publications

1. **Mwakilama, E.** and Eneya, L. (2013). A Transport optimization model of Retail Distribution: A case study of Zomba Bakery”. Conference proceedings of 30th Southern Africa Mathematical Sciences Association (SAMSA) Conference, pages 111-119.

RESEARCH AND CONSULTANCY

Applied Mathematics Research Group

1. Maliyoni, M., **Mwakilama, E.**, Eneya L., & Sawerengera, P. (2015). “Stochastic Modeling and Optimal Control of endemic infection: The case of Cholera along Lake Chilwa Basin”– Joint research paper in progress
2. **Mwakilama, E.** & Paisley, M. (2015). “Using MIR-Max pattern algorithm to measure the impact of NGO’s and CSO’s on socio-economic livelihoods of people in Malawi with evidence from 1998, 2004 & 2010 DHS data”-Joint research paper in progress.
3. Ali, P., **Mwakilama, E.**, Eneya, L., Chidzalo, P. & Mtonga, K. (2015). “Average distance of neighbourhood graphs with its applications to transport systems”- Research group paper completed.

Fibonacci Research Group Centre

1. Mwakilama, E., Mtumbuka, F. & Samikwa, E. (2015). “Use of e-mobile technology in building risk and disaster management systems in Malawi”- Research group paper completed.
2. Mwakilama, E., Mtumbuka, F. & Samikwa, E. (2015). “Managing emergency cases for rural parts of Malawi using e-health system- a combinatorial optimization approach”– Research group paper completed.

Consultancy & External Positions

1. External Research Consultant on Annual Impact assessment exercise on Community Voice Intensification (CVI) Project for Zomba Catholic Commission for Justice and Peace, March 2014.
2. Coordinator of Research and Consultancies at Mathematical Sciences Department, Chancellor College.
3. Director of Research & Training at Pi Research Consultancies (PRC), Lilongwe.
4. Coordinator and Founder of Fibonacci Research Group Centre, Chancellor College.

5. External research consultant on project review exercise of improving maternal & neonatal health project, with Catholic Health Commission (CHC) under Zomba Diocese Research & Development Department (ZARDD), with funding from Maternal World-wide Programme, July 2016
6. External exam moderator of Mathematics & Statistics courses at The St. John the Baptist University, Mangochi.

TEACHING/LEADERSHIP EXPERIENCE

Teaching Experience

- I have taught for three years at University of Malawi-Chancellor College in the courses
 1. College Algebra and Introductory Algebra & Elementary Calculus- First year
 2. Advanced calculus –Second year
 3. Discrete mathematics –Second year
 4. Complex Analysis- Fourth year
 5. Introduction to Mathematical Modelling- Fourth year
 6. Time Series Analysis – Third year
- I have participated in development of programs in Actuarial Science and Diploma in Statistics for University of Malawi, Chancellor College under Faculty of Science.
- I have developed three students' reading modules for diploma in statistics

Leadership Experience

1. Deputy Head of Mathematical Sciences Department- June 2016 to date
2. Head of Mathematics Section in the Department of Mathematical Sciences-2015
3. Coordinator of Research, Seminar and Consultancies of Mathematical Sciences Department, Chancellor College-2013 to date
4. President of Zomba Chapter St. Patrick's Seminary Foundation in Malawi-2014/15
5. Vice President of Stat-Mat Society- Chancellor College-2010/11
6. Director of Catholic Commission for Justice & Peace-Chancellor College-2009/10
7. Vice Chairperson for Catholic Students Organization-Chancellor College-2010/11
8. Deputy Head prefect of St. Patrick's Seminary secondary school-2005/06
9. Deputy Patron of Stat-Mat Society-Chancellor College-2014 to date
10. Patron for Chanco CCJP-Chancellor College-2014 to date
11. Coordinator and Founder of Fibonacci Research Group Centre, Chancellor College-2015
12. Patron for Let's Develop Malawi (LEDEMA) Project, Chancellor College Branch-2016

UNDERGRADUATE PROJECT SUPERVISION

I have supervised seven students in undergraduate students' projects (as Main supervisor or Co-supervisor) in Mathematics and Statistics as follows:

Undergraduate research projects (Main Supervisor)

Agnes Matope: *Factors affecting levels of knowledge on pre-mature births among women in Malawi*, Chancellor College, graduated in 2013.

Fiskani Kondowe: *Assessing the levels of secondary school dropouts in relation to socio-economic factors in Malawi, a case study of Khonjeni Area*, Chancellor College, graduated in 2013.

Speck Misolo: *Factors contributing to high rate of cesarean delivery in Malawi*, Chancellor College, graduated in 2013.

Taonga Chipeta: *An assessment on the potential effects of climate variation on crop yield, a case study of Chikhwawa district*, Chancellor College, graduated in 2013.

Undergraduate Research Projects (Co-supervisor)

Kettie Nthakomwa: *Optimal Assignment in transportation services: A case study of Chancellor College transport system*, Chancellor College, graduated in 2014.

Moses Aron: *Modeling waiting and service time for patients: a case study of Matawale Health Centre, Zomba – Malawi*, Chancellor College, graduated in 2015.

Ruth Sindie: *The negative impacts of first line Antiretroviral drugs on HIV patients: a comparative analysis of 1A, 2A and 5A Regimen: Case study of Zomba Central Hospital*, Chancellor College, graduated in 2015.

COMPUTER SKILLS

Data Analysis & Management	Mathematical Computing	Computer Programming
SPSS, STATA, CPro, Excel, R-Studio, Microsoft Office Project software	MATLAB, MAPPLE,	Java Programming, C++ , R-programming, SQLite, Rstudio, Version Control with Git, HTCondor, Cloud Computing, Open Source

REFEREES

Dr. L. K. Eneya Dean of Faculty of Science Chancellor College, Box 280, Zomba. leneya@cc.ac.mw +265(00 993 881 933	Dr. J.J. Namangale Director of NAREC Chancellor College, Box 280, Zomba. jnamangale@cc.ac.mw +265(0) 888 339 455
Prof. Dr. D. Fco. Javier Faulín Fajardo Master's thesis main supervisor Dept Statistics and Operations Research Public University of Navarra 31006 Pamplona. Spain javier.faulin@unavarra.es / javfau@gmail.com	Dr. P. Ali Head of Department Mathematical Sciences Department Chancellor College, Box 280, Zomba. pali@cc.ac.mw +265(0) 882 526 643