



Dr. Wesley Cheruiyot Koech

Applied Mathematician

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Address: 3900-30100, Moi University, Mathematics, Physics & Computing Department, Eldoret.

Personal Profile

DATE OF BIRTH: 15th December 1980.
ID NO: 22253930.
MARITAL STATUS: Married.
PRESENT POST: Lecturer.
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Career Aspiration

Aspires to excel in mathematical skills and ultimately be a professor of mathematics. Specialize in applied mathematics.

Core Competencies

- I am value-driven, hard working, goal-oriented, team player and able to multitask.
- I am enthusiastic, creative and innovative.
- I am able to work under pressure to meet strict deadlines.
- Proficient in computer skills (Basic IT Concepts, Windows MS Suite, Internet function and Latex).
- I am punctual and good in time keeping.
- I have ability to handle confidential information.

Education

- **MOI UNIVERSITY (2014 to 2018)**
Doctor of philosophy in Applied Mathematics.
PhD thesis “**Design and Simulation of the Motor-Gear-Alternator Model to Amplify the Usability of the Solar Energy for Commercial and Domestic Use.**”
- **KENYATTA UNIVERSITY(2011-2013)**
Master of Science(Applied Mathematics)
Master’s Thesis “**Controllability And Stabilization of a Channel With Wave Generators.**”
- **MOI UNIVERSITY (2001-2004)**
Bachelor of Education Science (Mathematics & Physics).
- **KABIANGA HIGH SCHOOL (1996-1999).**
Kenya certificate of secondary education {K.C.S.E}
- **CHEBIRBELEK PRIMARY SCHOOL (1988 -1995).**
Kenya certificate of primary education {K.C.P.E}

Current Position

❖ **Lecturer Moi University** (October 19th 2014 to date.)

Key responsibilities

- Teach and assess courses in one's discipline at masters and undergraduate level.
- Supervise masters and undergraduate projects and other experiential learning programme.

- Initiate , promote and participate in research project and publish.
- Provide professional and community services and initiate linkages.

❖ Teachers' Service Commission(TSC) (October 2006 to October 2014)

Key responsibilities

Work Experience

- Teaching Mathematics and Physics
- Head of Science and ICT Departments
- Patron Engineering And Science Fair

Papers Reviewed

- May 2019 Reviewed a paper from science domain publishers entitle **"Tuning of PID controller by using multiobjective Particle Swarm Optimization"**
- May 2018 Reviewed a paper from science domain publishers entitle **"Parameter estimation of exponentiated U-quadratic distribution: alternative maximum likelihood and percentile methods"**

Thesis Supervised

- PAUL KIPKURGAT CHOGE, Moi University
PhD Thesis Title "Mathematical modeling of in-vivo pharmacokinetic reaction dynamics and immune response to viral pathogens"
Ongoing
- OKERI DOLPHINE KEMUNTO, Moi University
MSc Thesis Title
"Using the logistic growth model to assess fishing techniques for sustainable tilapia catch and management at omega farm"
Ongoing
- ROBERT KIPKIRUI SIGEI, Moi University
Msc Thesis Title
"Mathematical modeling of energy mix and optimization of renewable resources"
Ongoing
- MBURU NGANGA FRANCIS, Kisii university
MSc Thesis Title
"Magneto hydrodynamics Free Convective Flow of Viscous Fluid Through Porous Media of Parallel Plates With Non-Uniform Heat Source And Suction Velocity"
Graduated December 2021
- Paul Kiplimo Tarus, Kisii University
MSc Thesis Title
"Mathematical model describing the dynamics of a motor generator coupled power supply system to maintain the steady state"
Graduated December 2020

Thesis Examined

- September 2023, examined Master of Science in Biostatistics Thesis Entitled **“Optimal Weighted Centroid Designs for Maximal Parameter Subsystem for Third Degree Kronecker Model Mixture Experiments.”** by Kibet Jemeli Fridah
- March 2021, examined PhD in applied Mathematics Thesis entitled **“Mathematical Modeling of Infectious Disease Dynamics in Metapopulations”** by John Wanjau Mutuguta
- September 2019, examined M.sc thesis in Biostatistics entitled **“Construction of Three and Five Level Second order slope Rotatable Designs”** by Chepkemai Edna

Other Responsibilities

- **Board Member and Chairman** Kapkatet tea factory company, PLC from 5th May 2021 to date
- **Board Member and Chairman** Tebesonik tea factory company Limited from 5th May 2021 to date
- **Board Member and Vice Chairman** KTDA Holdings PLC, from 27th May 2021 to August 2024
- **Fertilizer Due diligence in Russia** 27th May – 6th June 2023
- **BOM Member and PA Chairman** of Mercy Girls High school from 10th May 2021 to date
- **BOM member and vice chair** of Chewoyet National School from 4th June 2019 to 16th June 2022.
- **BOM member** of Arokyet Girls Secondary School from 21st May 2019.
- Member of **Income Generating Unit (IGU)** School of Biological and Physical sciences, Moi University (from 6th December, 2018 to December 2022).
- **Chairman** Chemwonjo Tea Buying Center (from 5th November, 2018 to November 2021).
- **PA member** of Chewoyet National School (from February 2018 to November 2021).
- School of Science and aerospace studies, Moi University **Timetabling and Examination Coordinator** (from 18th May, 2017 to April 2023).
- School of Biological and Physical Science, Moi University **Alumni Board Member** (from 5th November 2014 to date)
- Bridging Mathematics school **coordinator** (from June, 2015 – Aug. 2016)
- Participated in **reviewing** both undergraduate and Master's applied mathematics curriculum.
- **BOM member** of Kaminjeiwa Secondary School and also chairman of Academics standards sub-committee (from 28th September, 2015 to date).
- 31th May 2013 – **Physics Judge** at Nakuru Regional Science and Engineering Fair held at Narok Boys High school.
- 12th May 2012 – **Applied Technology Exhibit Judge** at Kericho county students' congress on science and technology.

- 24th March 2012 – **Physics Exhibit Judge** – at Bureti District students' congress on science and Technology.
- District Handball **Referee** held on 25th march 2011 at kiptenden sec. school.
- 4th July 2009, Participated as an **examiner** during the students' Physics contest held at koiwa High school.
- 27th May 2006 – **Track Judge** of District Championship held at Litein Boys.

Research and Publication

- Mburu, F., Kerongo, J., & **Koech, W.** (2019). Effects of Viscous Dissipation Parameter on Magneto-hydrodynamic Free Convective Flow through a Porous Media of Parallel Plates with a Non-uniform Heat Source for an Unsteady Case. *Asian Research Journal of Mathematics*, 1-18.
- Tarus, P., **Koech, W.**, & Obogi, R. (2018). Modelling of Motor-Gear-Generator System (Vol. 25). *Asian Journal of Mathematics and Computer Research*: International Knowledge Press.
- Koech, W. C.** (2018). Design and simulation of the motor-gear-alternator model to amplify the usability of the solar energy for commercial and domestic use. *Moi University*.
- Koech, W.** (2018). Stability Analysis of A Closed Motor-Gear-Alternator (Mga) System Using Nyquist Technique. *Asian Journal of Mathematics and Computer Research*, 24(1), 22-31.
- Koech, W.** (2017). Stability Analysis of a Motor-Gear-Alternator (MGA) System Using Bode Plot Technique. *Journal of Advances in Mathematics and Computer Science, Science Domain*, 25(2), 1-11.
- Koech, W.**, Rotich, S., Rotich, T., & Nyamwala, F. (2016). Dynamic Model of a DC Motor-gear-alternator (MGA) System. *Asian Research Journal of Mathematics*, 1(4), 16.
- Koech, W.**, Rotich, T., Nyamwala, F., & Rotich, S. (2016). Parameter Identification of a Motor-Gear-Alternator (MGA) System via Step Response Methodology. *American Journal of Applied Mathematics*, 4(5), 252-257.
- Abuga, J., Kivunge, B., Muchemi, J., **Koech, W.**, & Matuya, J. (2013). The W_{ss} Po-Matrix Completion For Digraphs of 2x2, 3x3 Matrices and 4x4 Matrices For $Q = 0, 1, 2, 3$ And 4. *International Journal of Innovative Research & studies*.

Awards and funding

- Received Ksh 1.2 M from National Research Funds grants, 2016 - towards my PhD studies and Research.
- Received Ksh 165,000 from Moi University partial scholarship towards my doctorate studies, 2015.
- Research fund(Ksh60,000) from Moi university, 2015.

Research/Teaching Interest

- Modelling and simulation of Control Systems.
- System parameter Identification
- Specialised in fluid mechanics, Vector Analysis and Methods of applied Mathematics

Seminar, workshops and conferences

- **Directors Induction Training** from 2nd to 6th September 2024 at Pridelnn Paradise Resort & Spa in Mombasa.
- **Corporate governance training** from 22nd to 25th July 2024 at Tumaini Conference Centre, Nakuru
- **Corpoarte governance training** from 1st to 5th august 2022, at Eagle PalaceHotel, Nakuru
- **Human Resourse Training** from 8th to 10th june 2022, at English point Marina hotel, Mombasa
- **Induction and Corporate Governance** from 30th August to 6th September 2021 at Travelers Beach hotel – mombasa.
- **Induction and Corporate Governance** from 6th – 13th July 2021 at Hilton Hotel – Nairobi.
- April, 2019 Attended **National staff exchange** in the area of energy and environment at KIRDI.
- 29th -30th November 2017-Attended **Future Energy East Africa** (EAPIC conference and expo) held at safari park hotel.
- 16th -20th June, 2014 - Participated and successfully completed a **secondary school's physics teachers' workshop** on setting & marking of exams, teaching resources and methodology held at Bishop Delany Memorial School, Eldoret.
- 26th July2012 to 28th February 2013 – participated in the EU/FAO sponsored Radio training programme *MAZIWA NI MALI* aired on Milele F.M. station. The training covered Dairy cattle management, Feeding and Dairy Hygiene.

Referees

PROF. SAMWEL ROTICH

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