

## CURRICULUM VITAE

### PERSONAL DETAILS

**NAME:** NYAKINDA JOSEPH OTULA  
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**ID. No.:** 10820734  
**DATE OF BIRTH:** 31 / 08 / 1971  
**NATIONALITY:** KENYAN  
**MARITAL STATUS:** MARRIED  
**PROFESSION:** SENIOR LECTURER  
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### EDUCATIONAL AND PROFESSIONAL QUALIFICATION

#### 1. POST GRADUATE LEVEL

**2008 TO 2011:** Doctor of Philosophy in Applied Mathematics -  
Maseno University  
**THESIS TITLE:** The derivation of a Logistic Nonlinear black scholes  
Merton Partial Differential equation :European option  
**2005 TO 2007:** Master of Science (Applied  
Mathematics)- Maseno University

### PUBLICATION

- 1) SO Ojung'a, **JO Nyakinda**, E Okuto and JA Mullah,( October 2020)  
SENSITIVITY ANALYSES OF POPULATION PROJECTION MATRIX OF  
CESTRUM AURANTIACUM. INTERNATIONAL JOURNAL OF  
STATISTICS AND APPLIED MATHEMATICS, IJSAM Volume 5 No 6
- 2) S.O. Ojunga, **J.O Nyakinda**, E. Okuto and J.A Mullah (2020). EXTENSIONS  
OF LEFKOVITCH MATRIX FOR MODELING INVASIVE *CESTRUM*  
*AURANTIACUM* POPULATION DYNAMICS. Mathematical Theory and  
Modeling. (Online).Vol.10, Issue No.7,
- 3) C.W Otulo, Z.M muga, N.B Okelo, **J.O. Nyakinda** (August 2020), SUM  
CONSTRUCTION OF AUTOMORPHIC SYMMETRIC BALANCED  
INCOMPLETE BLOCK DESIGNS, IJSR Volume 7, Issue 4
- 4) C.W Otulo, Z.M muga, N.B Okelo, **J.O. Nyakinda** (March  
2020).RELATIVE EFFICIENCY OF SUM SYMMETRIC  
AUTOMORPHIC SYMMETRIC BALANCED INCOMPLETE BLOCK  
DESIGNS IJSRMSS, Volume 7, Issue 4.
- 5) Bakker Daniel k , Odundo F, **Nyakinda J**, Paul Samuel(July 2019).  
PERFORMANCE EVALUATION CRITERIA OF CREDIT SCORING  
MODELS FOR COMMERCIAL LENDERS, IJMTT, Volume 65, ISSUE 7.

- 6) Bakker Daniel k , Odundo F, **J . Nyakinda**, (June 2019). PROBABILITY OF DEFAULT ESTIMATION FOR COMMERCIAL LENDERS IN DEVELOPING ECONOMIES: CREDITWORTHINESSOF CONSUMER BORROWER, GSJ, Volume 7, Issue 6.
- 7) Charles Onchiri Ong’uti<sup>1</sup>, Peter J. O. Aloka, **Joseph Otula Nyakinda**. (September 2019) METACOGNITIVE MONITORING AS PREDICTOR OF MATHEMATICS ACHIEVEMENT AMONG STUDENTS IN PUBLIC SECONDARY SCHOOLS IN KENYA, JJPBS, Volume 1.
- 8) Charles Onchiri Ong’uti<sup>1</sup>, Peter J. O. Aloka, **Joseph Otula Nyakinda** ( May 2019) RELATIONSHIP BETWEEN GOAL-SETTING AND MATHEMATICS ACHIEVEMENT AMONG STUDENTS IN PUBLIC SECONDARY SCHOOLS IN KENYA, JAMSS, Volume 1.
- 9) **Joseph Otula Nyakinda**(July 2018) A LOGISTIC BLACK- SHOLES-MERTON PARTIAL DIFFERENTIAL EQUATION: ACASE OF STOCHASTIC VOLATILITY, IJSER, Volume 6, Issue 7
- 10) S. O. Ojung’a, **J. O. Nyakinda**, E. Okuto, J. A. Mullah(July 2019). INVASIVE SPECIES POPULATION STATUS MODELING USING STAGE BASED MATRIX: MOUNT ELGON ECOSYSTEM, IISTE, Volume 9, No. 2
- 11) **Joseph Otula Nyakinda**(June 2018).A LOGISTIC NONLINEAR BLACK- SHOLES-MERTON PARTIAL DIFFERENTIAL EQUATION: EUROPEAN OPTION, IJRG Volume 6, Issue 6.
- 12) Were J, Omolo Ongati, **Nyakinda J**(February 2017).ASSET VALUATION USING ACONTINGENT CLAIM, IJSR Volume 6 Issue 2.
- 13) **Joseph O. Nyakinda** and Omolo Ongati (January 2015) DETERMINISTIC MATHEMATICAL MODEL FOR FISH HARVESTING: IJESRT, Vol 5.
- 14) Apaka Rangita, Silas N. Onyango, Omolo-Ongati and **Otula Nyakinda**(December 2014) OPTION PRICING OF AN ASSET WITH SEASONAL AND PERIODIC SUPPLY, IJMSE vol 5, Issue 12.
- 15) Apaka Rangita, Silas N. Onyango, Omolo-Ongati and **Otula Nyakinda**(November 2014) JUMPS IN THE KENYAN INTEREST RATES, IJMSE vol 5, Issue 11.

- 16) Boniface O. Kwach, Omolo Ongati, **Nyakinda J.O.** (July 2013) FORENSIC ESTIMATION OF TIME OF DEATH: A MATHEMATICAL MODEL: IJMIE, Vol 3, Issue No. 7, ISSN: 2249-0558, 331- 339
- 17) M.E. Oduor, N, Omolo Ongati, T.J.O. Aminer and **J. Nyakinda Otula**- SYMMETRY GROUP APPROACH TO THE SOLUTION OF THE GENERALISED BURGERS EQUATION:  $U_t + U_{xx} + \gamma U_{xx}$  Applied Mathematical Sciences. Vol 7, No: 13 – 16 2013, ISSN 1312 -885x , ISSN 1314 -7552
- 18) Silas N. Onyango, N. Omolo Ongati, and **Joseph Otula Nyakinda** – “ON THE WALRASIAN -SAMUELSON PRICE ADJUSTMENT MODEL “ International Journal of Pure and Applied Mathematics [IJPAM], ISSN 1131-8080 , VOLUME 61 No. 2. PageS 211-218

### **CONFERENCES ATTENDED**

- Attended and presented a paper at the Strathmore International Mathematics Research conference in July 2012.

### **COMPLETED SUPERVISIONS**

- 1) PhD supervision :JOSHUA WERE: Contingent Claim analysis in pensions.(JOOUST)
- 2) PhD, CHARLES ONCHIRI ONGUTI: Self Regulated Learning Techniques as a predictor of Mathematical Achievement Among Students in Public Schools in Kenya .(JOOUST)
- 3) PhD, OJUNG’A SAMSON OKOTH, : Extension of Stage Based Projection Matrices and its Application to population modeling of Cestrum Auranticum.(JOOUST)
- 4) PhD, OTULO CYRILUS WANDERA: Construction of Automorphic Symmetric balanced incomplete Blocks Designs(JOOUST)
- 5) PhD, BAKKER DANIEL KICHE: The credit Scoring Risk modeling in a Developing Economy..( Thesis defended and going on with corrections)

## EXAMINED THESES

### Masters

- 1) OPONDO MARK OCHIENG -“ A Jump diffusion Logistic Brownian Motion With Dividend Yielding Asset ”
- 2) BOAZ OKOTH OKELLO–“Norms and Maximal Numerical Range of Elementary Operators”
- 3) RONO SHARON–“ Spectral Characterization of Jordan Homomorphism on Semisimple Banach algebras”
- 4) MWAMBU ANTHONY WAFULA–“ On Norms of Normally Represented Elementary Operator”
- 5) OUMA KEVIN ONYANGO–“On Hypercyclic and Chaotic operators in Frechet Spaces ”
- 6) BENARD ODHIAMBO–“Gateaux Derivatives and orthogonality of Normal Derivation in  $C_p$  - classes”
- 7) OGOLA BLASUS–“ On Normality and compactness of dense topological subspaces”
- 8) OLIELO JOEL ODONGO. -“Mathematical model for Nutrient Exchange Across the Placenta”
- 9) LEONARD O. JABER–“Influence of Human resource Procurement Policies on performance of Public Universities Employees: A case of Jaramogi Oginga Odinga University of Science and Technology”
- 10) KANGOGO WILLY -“On Norm preserving conditions for Local Automorphisms of Commutative Banach Algebras”
- 11) LEONARD O. JABER -“Influence of Human resource Procurement Policies on performance of Public Universities Employees: A case of Jaramogi Oginga Odinga University of Science and Technology”
- 12) OGONGO, GEORGE OCHIENG –“Finite difference solution of a Parabolic Advection Equation with Constant Coefficients”\_.

- 13) NYANGWE, GEORGE ONDIEK OPIYO –“Symmetry Analysis of third Order non Linear ordinary differential equation which is cubic in the second order derivative”

### **Doctorate**

- 1) JUSTUS KAISA NYANG’ACHA -“ Mathematical Modeling of 2D Heterogeneous Motor Vehicle Traffic Flow System”
- 2) NYALUKE WESLEY KIPRONO –“ Characterization of Continuity and Convergence of Fredholm Operators Perturbed by Orthogonal Idempotents in Banach spaces ”
- 3) OUMA KEVIN ONYANGO–“On Hypercyclic and Chaotic operators in Frechet Spaces ”
- 4) KINYANJUI JEREMIAH NDUNGU–“ Norm Estimates for Norm attainable operators”
- 5) WANJARA AMOS OTIENO–“ Rotundity of Norms in Banach Spaces”
- 6) OWEGO DANCUN OKESO–“ Characterization of essential numerical ranges and Davis-Wielndt Shells of Hilbert space operators”
- 7) TINEGA ABEL KURURA–“Finite Difference solution of (2+1) Dimension Sine-Gordon Equation: A mathematical model for investigating the Long Josephson Junction”
- 8) OBOGI ROBERT KARIEKO–“On complete positivity and boundedness of operators in Non-Unital C\*-Algebras”
- 9) PRISCAH MOGOTU OMOKE–“ Characterization of Similarity Orbits of Invariant Subspaces of Norm attainable Operators”
- 10) KAUNDA MATOKEFOREST COLLINS–“ Orthogonality of Finite Rank generalized Derivations”
- 11) JULIA NDONG’A OWINO–“ On compact operators whose norms are Eigenvalues”
- 12) MUGA ZABLON MAUA -“Stochastic modeling of Road Accidents Using Poisson and Negative Binomial as the Error Term Distributions Assuming Polynomial Priors ”

- 13) ODUOR DANIEL BRIAN -“Estimation of Volatility using Mean reverting European-Logistic type Option pricing model”
- 14) ERICK OTIENO ARIEDA OKUTO -“Reconstruction of Vegetation index and Phenology Lab enhanced vegetation index record”
- 15) APAKA,BONIFACE RANGITA –“Jumps and Mean Reversion in the Kenyan interest rates”
- 16) ODUNDO FRANSIS OKELLO –“Mathematical modelling of HIV infection in the presence of ARVs and mother to child infection”
- 17) OMONDI, JOSEPH OUNO -“modeling of demand process of capital shares by the mean reverting geometric brownian motion”
- 18) KWACH BONIFACE OTIENO-“\_Mathematical Model for drug therapy in patients with diabetes mellitus”
- 19) AMINER J.O. TITUS-“Lie Symmetry Solution of fourth order Non-Linear Ordinary Differential Equation”

## **2. OTHER LEVELS OF EDUCATION**

<b>LEVEL</b>	<b>INSTITUTION</b>	<b>DATE FROM TO</b>		<b>CERTIFICATE/ DEGREE</b>	<b>PASS/GRADE/ DEGREE</b>
UNDERGRADUATE	MOI	1990	1994	Bachelor of Education	2 <sup>nd</sup> Class Honors Upper Division
A-LEVEL	KAKAMEGA HIGH SCHOOL	1988	1989	K.A.C.E	4 Principals & 1 subsidiary
O-LEVEL	KAKAMEGA HIGH SCHOOL	1984	1987	K.C.E	DIV II
PRIMARY	CHEBUYUSI	1977	1983	C.P.E	30Points

## **WORK EXPERIENCE**

**2013 SEPT TO DATE**

Ag. Chairman of department-Department of Applied Statistics, Financial Mathematics and Actuarial Science

**2022 JULY TO DATE:**

A Senior Lecturer in the school of Biological, Physical, Mathematics and Actuarial Sciences at Jaramogi Oginga Odinga University Of Science and Technology

**2011 NOV TO 2022 JUNE:** A Lecturer in the school of Biological, Physical, Mathematics and Actuarial Sciences at Jaramogi Oginga Odinga University Of Science and Technology

**2010 SEPT OCT: 20 11** A Lecturer in the school of mathematics and Actuarial Sciences at Maseno University

**2008 SEPT TO AUG 2010:** A Tutorial Fellow in the school of mathematics and Actuarial Sciences at Maseno University.

### **RESEARCH AREAS OF INTEREST**

- Financial mathematics
- Ordinary Differential Equations
- Partial Differential Equations
- Areas of Applied mathematics

### **RESPONSIBILITIES AT JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

- QMS(Quality Management systems) Internal Auditor for ISO 9001:2008 standard
- Procurement committee member June 2012 to 2016
- Returning officer SAJOUST elections in 2013 , 2014 and 2015.
- Examinations and timetabling coordinator in the school of Mathematics and Actuarial Science (SMAS) from August 2012 to August 2013.
- Interim Chairman University Staff Benevolent fund From 2012 to 2014

### **RESPONSIBILITIES AT MASENO UNIVERSITY**

- Examination officer school of Mathematics and Actuarial Science
- Returning officer in the 2011/ 2012 SOMU(Student's Organization of Maseno University) elections

### **OTHER RESPONSIBILITIES**

- Parents Association Chairman Kisumu Girls High School from February 2011 to 2014.
- Member Board of Management Kisumu Girls High School from November 2015 to date.
- Member Board of Management Omboga Mixed Secondary School School from May 2019 to date.
- Pastor, Oasis of Glory Ministries

## **REFEREES**

- 1) Prof. Omolo Ongati  
School of Biological Physical Mathematics and Actuarial Sciences  
Jaramogi Oginga Odinga University Of  
Science and Technology P.o Box210  
BONDO KENYA  
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- 2) Prof. Maurice Oduor Owino  
University of Kabianga  
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KERICHO  
Email: [moduor@kabianga.ac.ke](mailto:moduor@kabianga.ac.ke)
- 3) Prof. Silas Onyango  
KCA University  
NAIROBI  
Email: [s\\_onyango@hotmail.com](mailto:s_onyango@hotmail.com)