



Curriculum Vitae

PERSONAL INFORMATION

First name(s) / Surname:	SAMMY MUSUNDI WABOMBA
Profession/ Occupation:	Associate Professor (Pure Mathematics)
Address(es):	P.O. Box 109-60400, Chuka, Kenya
Mobile:	+254720870132
E-mail(s):	sammusundi@yahoo.com/ swmusundi@chuka.ac.ke / musundisam@gmail.com
Nationality:	Kenyan
County	Bungoma
Date of birth:	20 th September 1979
Marital Status:	Married

DESIRED EMPLOYEMENT/OCCUPATIONAL FIELD

University Lecturer/Scientific Researcher

WORK EXPERIENCE

Dates	Name and address of employer	Occupation or position held	Main activities and responsibilities
19 th December, 2019 to Present	Chuka University, P.O BOX 109-60400, Chuka.	Associate Professor	.Dean, Faculty of Science Engineering & Technology. .Teaching of under-graduate and graduate Pure Mathematics courses .Supervision of graduate students
17 th December, 2013 to 18 th December 2019	Chuka University, P.O BOX 109-60400, Chuka.	Senior Lecturer	.Examination officer, Dpt. Of Physical Sciences .Teaching of under-graduate and graduate Pure Mathematics courses .Supervision of graduate students . Member of Conference Committee and JESAR Secretariat. .Committee member of Chuka University Committee on National Cohesion and National Values, Chuka University. .Board of Undergraduate Studies and Field Attachment (BUSF) Rep. Faculty of Science Engineering & Technology. . Peer Reviewer-Directorate of Research and Publications .Patron, Chuka University Mathematics Club
22 nd May, 2012 ~ 16 th December 2013	Chuka University College, P.O BOX 109-60400, Chuka.	Lecturer	.Coordinator, Mathematics section .Teaching of under-graduate Pure Mathematics courses
November,20 10 ~ 21 st May,2012	Chuka University College, P.O BOX 109-60400, Chuka.	Assistant Lecturer	.Coordinator, Mathematics section .Teaching of under-graduate Pure Mathematics courses
April, 2008 ~ December, 2010	Masinde Muliro University of Science and Technology, P.O BOX 190-50100Kakamega.	Assistant tutor	Assistant tutor of undergraduate school-based Mathematics units-: Linear Algebra I(MAT212), Linear Algebra II(MAT213), Pure Mathematics I(MAT 105), Calculus I(MAT 107), Calculus II(MAT 210), Vector Analysis (MAT 214)
September,20 07 ~ October 2010	Bishop Sulumeti Girls High School, P.O BOX 804-50100 Kakamega.	Graduate Teacher (TSC No.453006)	HOS Mathematics; Teacher in Mathematics and Chemistry; Trainer in Chess and Leg-ball; Time-table Master

May, 2004 - July 2005	Mandera Integrated Academy, P.O Box 302, Mandera.	BOG Teacher	Teacher in Mathematics, Chemistry and Computer studies. Mathematics club coordinator; Examinations master.
September, 2003- December 2003	Pan Paper High School, P.O Box 1388 Webuye.	Teacher on Practice	Teacher in Mathematics and Chemistry
April, 2000 - December 2000	Muji Secondary School, P.O BOX 1017 Webuye.	Guest teacher	.Teacher in Mathematics, Chemistry and Physics .In charge of Holiday tuition teaching team, Mathematics Club Coordinator
May, 2001 – Dec 2001	Muji Secondary School, P.O BOX 1017 Webuye.	Guest teacher	.Teacher in Mathematics, Chemistry and Physics .In charge of Holiday tuition teaching team, Mathematics Club Coordinator

EDUCATION AND TRAINING

Dates	Name and type of organisation providing education and training	Title of qualification awarded	Principal subjects/occupational skills covered
May, 2009 – 6 th December, 2013	Masinde Muliro University of Science and Technology	Doctor of Philosophy (PhD.)	Pure Mathematics (Functional Analysis-Operator Theory) Thesis Title: ``On Norms of Ideals and their properties in Banach spaces''
September, 2005- December 2008	Maseno University	Master of Science (MSc.)	Pure Mathematics (Functional Analysis) Thesis Title: `` <i>On a Generalized q- Numerical Range</i> ''
September, 1999 - March 2004	Maseno University	Bachelor of Education (Science); Second class Honours (Upper Division)	Mathematics and Chemistry
February, 1998 -November, 1998	Muji Secondary School	KCSE (B-)	
January, 1994 - November 1997	Pan Paper High School		
January, 1986 - November 1993	Kakimanyi Primary School	KCPE	

FIELD OF SPECIALISATION

Functional Analysis-Operator Theory

PERSONAL SKILLS AND COMPETENCE

Mother Tongue	Other Languages	Social skills and competences	Computer skills and competences
Ki-luhya.	English and Kiswahili	A dynamic leader- As the Chairman of United Students Self Help Group (USSHG), Milo Sub Location (2001-2003);Treasurer, FSET Welfare SHG, Chuka University (2014-Date)	Computer proficient and literate in the main software packages; Latex.

ADMINISTRATION/RESPONSIBILITIES

Dates	Institution	Position held/Responsibilities
27 th Sep 2019- to Date	Chuka University	Dean, Faculty of Science, Engineering & Technology
Jan, 2014- 26 th Sep 2019	Chuka University	Examination officer, Dpt. Of Physical Sciences
November, 2010 ~ 16 th December 2013	Chuka University	Coordinator, Mathematics section

WORK EXPERIENCE/EXTERNAL EXAMINATION

YEAR(S)	POSITION HELD
2019 – to Date	Reviewer, MathLAB Journal
Feb, 2016- to Date	Reviewer, Science Publishing Group “Mathematics and Computer Science (MCS); U.S.A. http://www.sciencepublishinggroup.com/j/mcs ”
2016 – to Date	Editorial Board Member, “Journal of Multidisciplinary Engineering Science and Technology”
2017 – to Date	Reviewer, Journal of Progressive Research in Mathematics (JPRM).
June, 2016	Reviewer, Chuka University ODEL Mathematics Modules.
June, 2016- to Date	Reviewer, <i>Journal of Environmental Sustainability Advancement Research (JESAR) ISSN 2409-966X</i> C/O Chuka University
June, 2019	A Stakeholder for the Curricula Review of MSc. in Pure Mathematics, MSc. in Applied Mathematics and MSc. in Statistics at Jaramogi Oginga Odinga University of Science & Technology.

12 th Feb, 2019	A Stakeholder for the Curricula Review of MSc. in Pure Mathematics, MSc. in Applied Mathematics and MSc. In Statistics at Kirinyaga University.
30 th April, 2021	A Stakeholder for the Curricula Review of BSc. in Mathematics Sciences, at Jaramogi Oginga Odinga University of Science & Technology.
19 th Aug, 2019	An External Examiner for Pure and Applied Mathematics courses, Kirinyaga University.
March, 2019	1. External Examiner for a PhD. Thesis in Pure Mathematics for Owego Dancun Okeso entitled. <i>“Characterization of Essential Numerical Ranges and Davis-Wielandt Shells of Hilbert Space Operators”</i> , Jaramogi Oginga Odinga University of Science & Technology.
March, 2019	2. External Examiner for a PhD. Thesis in Pure Mathematics for Wanjara Amos Otieno entitled. <i>“Rotundity of Norms in Banach Spaces”</i> , Jaramogi Oginga Odinga University of Science & Technology.
October, 2019	3. Examiner for MSc. Thesis in Pure Mathematics for Wegulo Martin entitled <i>“On Spectra of Hyponormal Operators in Hilbert Spaces”</i> , Kibabii University.
July, 2019	4. Examiner for MSc. Project Report in Applied Mathematics for Veronicah Nyokabi Njenga entitled <i>“Direction of Arrival Estimation Using a Uniform Arc Array”</i> , University of Embu.
April, 2019	5. External Examiner for MSc. Thesis in Pure Mathematics for Ogola Blasus entitled. <i>“On Normality and Compactness of Dense Topological Subspaces”</i> , Jaramogi Oginga Odinga University of Science & Technology.
August, 2018	6. External Examiner for MSc. Thesis in Pure Mathematics for Rono Sharon entitled. <i>“Spectral Characterization of Jordan Homomorphisms on Semisimple Banach Algebras”</i> , Jaramogi Oginga Odinga University of Science & Technology.
July, 2018	7. External Examiner for MSc. Thesis in Pure Mathematics for Mwambu Anthony Wafula entitled. <i>“On Norms of Normality Represented Elementary Operators”</i> , Jaramogi Oginga Odinga University of Science & Technology.
July, 2018	8. External Examiner for MSc. Thesis in Pure Mathematics for Odhiambo Moses Nyabola entitled. <i>“Bilateral Shifts and Spectrum of Compact Operators”</i> , Jaramogi Oginga Odinga University of Science & Technology.
December, 2017	9. External Examiner for MSc. Thesis in Pure Mathematics for Oyake Maurice Otunga entitled. <i>“Norms of inner Derivations Induced by Norm-Attainable Operators”</i> , Jaramogi Oginga Odinga University of Science & Technology.
October, 2017	10. External Examiner for MSc. Thesis in Pure Mathematics for Benard Odhiambo Owino entitled. <i>“Gateaux Derivatives and Orthogonality of Normal Derivations in \mathbb{C}_p-Classes”</i> , Jaramogi Oginga Odinga University of Science & Technology.
September, 2017	11. External Examiner for MSc. Thesis in Pure Mathematics for Boaz Okoth Okello entitled. <i>“Norms and Maximal Numerical Range of Elementary Operators”</i> , Jaramogi Oginga Odinga University of Science & Technology.
February, 2017	12. External Examiner for MSc. Thesis in Pure Mathematics for Jacqueline Akinyi Otieno entitled. <i>“On Numerical Ranges and Spectral of Convexoid Operators”</i> , Jaramogi Oginga Odinga University of Science & Technology.

KEY RESEARCH PROJECTS/AWARDS

YEAR(S)	TITLE
April 2021	<i>MONITORING AND MODELLING OF POLLUTANTS IN MINICIPAL WASTE WATER AND THEIR REMEDEIATION FOR REUSE</i> - Chuka University Internal Research Fund Grant (Ksh.2,000,000)
April 2021	<i>AN INTEGRATED GEOPHYSICAL AND LITHOGEOCHEMICAL INVESTIGATION OF NATURAL GAS IN KIPETO AREA, KAJIADO COUNTY, KENYA</i> - Chuka University Internal Research Fund Grant (Ksh.900,000)
2015-2017	<i>MODELLING HIV/AIDS CO-INFECTION WITH MALARIA AND TUBERCULOSIS IN THE PRESENCE OF TREATMENT AND COUNSELLING.</i> - (NACOSTI) Research Grant (Ksh 560,000)-PhD Research Supervision: Mark Okongo Onyango.
2015-2019	<i>NORM ESTIMATES FOR NORM- ATTAINABLE OPERATORS.</i> -(NACOSTI) Research Grant (Ksh(500,000)-PhD Research Supervision: Jerimiah Ndung'u Kinyanjui.
2014	<i>APPLICATION OF BANACH SPACE IDEAL PROPERTIES IN IMAGE TRANSMISSION OVER WIRELESS NETWORK</i> International Center for Pure and Applied Mathematics (CIMPA) Grant (October, 2014) of € 400.
2012-2014	<i>APPLICATION OF BANACH SPACE IDEAL PROPERTIES IN COMPUTER NETWORK TRANSMISSION</i> -Chuka University College Staff Research Grant-(2012) (Kshs. 500,000)
2009-2013	<i>ON NORMS OF IDEALS AND THEIR PROPERTIES IN BANACH SPACES</i> -The National Council for Science and Technology (NCST) PhD Research Grant (Ksh 1.2m).

PROFESSIONAL SOCIETIES

Member of Mathematics and Computer Networking Society (MACKNET), Kenya; (Sep 2010 -Date)

Member of Mathematical Association of Kenya (MAK) (2009 -Date)

Member of AMMSI(African Mathematics Millennium Science Initiative) (2006 -Date)

RESEARCH ARTICLES/PUBLICATIONS IN PEER REFEREED JOURNALS

SN	
1	Fancy Nyabate, Denis King'a ng'i, Sammy W. Musundi , " <i>On Classification of Permutations</i> ", Asian Pacific Journal of Mathematics (Asia Pac. J. Math.) 2020 7:16.
2	Mbatha M. Elizabeth, Musundi W. Sammy , Kamweru K. Paul, " <i>Correlation Between Electromagnetic Wave Equation and Einstein Theory of Relativity in Derivation of Schrödinger Equation and Hilbert Space Operators</i> ", Journal of Multidisciplinary Engineering Science Studies (JMESS)-6(3), 2020.
3	Priscah M. Ohuru, Sammy W. Musundi , "The Banach Numerical Range for Finite Linear Operators ", International Journal of Modern Mathematical Sciences (IJMMS), Florida, USA 18(1), 2020, 1-10.
4	Kirimi, J. H, Okong'o, M.O, Musundi, S. W. and Ombaka, O., " <i>Effects of Hall Current, Rotation and Inclined Magnetic Field on a Fluid Flowing over a Porous Parallel Vertical Plates with Heat and Mass Transfer</i> ", J. Env. Sust. Adv. Res. (5), 2019, 59-68.

- 5 Jacob Kirimi, Mark O. Okong'o, **Sammy Musundi**, Ombaka C. Ochieng, "*Combined Effects of Hall Current, Rotation and Inclined Magnetic Field on a Free Convection Fluid Flow over an Exponentially Accelerated Vertical Plate with Heat and Mass Transfer*", Journal of Multidisciplinary Engineering Science Studies (JMESS)-5(5), 2019.
- 6 Priscah M. Ohuru, **Sammy W. Musundi**, Ombaka C. Ochieng, "*On the Banach Space Numerical Range for a Linear Operator*", International Journal of Modern Mathematical Sciences(IJMMS), Florida, USA-2019, 17(1), 40-48
- 7 Jimrise O. Ochwach, Mark O. Okongo, **Sammy W. Musundi**, "Stability Analysis of the Modified Advection-Dispersion Model for Nitrate Leaching into Groundwater", Journal of Progressive Research in Mathematics (JPRM)-14(2), 2018.
- 8 Kawira Esther, Denis N. King'ang'i, **Sammy W. Musundi**, "*On The Norm of an Elementary Operator of Finite Length in A C*Algebra*", Journal of Progressive Research in Mathematics(JPRM)-14(1), 2018
- 9 Peter G. Muiruri, Denis N. King'ang'i, **Sammy W. Musundi**, "*On the of Basic Elementary Operator in a Tensor Product*", International Journal of Scientific and Innovative Mathematical Research (IJSIMR)-6(6), 2018, 15-22.
- 10 Jimrise O. Ochwach, Mark O. Okongo, **Sammy W. Musundi**, "*Modeling the Impact of Soil Porosity on Nitrate Leaching to Groundwater Using the Advection Dispersion Equation*", IOSR Journal of Mathematics (IOSR-JM) -14(4), 2018, 18-26.
- 11 J. N. Kinyanjui, N.B. Okello, O. Ongati & **S. W. Musundi**, "*Characterization of Norm-Attainable Operators*", International Journal of Mathematical Archive-9(7), 2018, 124-129.
- 12 J. N. Kinyanjui, N.B. Okello, O. Ongati & **S. W. Musundi**, "Norm Estimates for Norm-attainable Elementary Operators", International Journal of Mathematical Analysis, Vol. 12, no. 3, 137-144, 2018.
- 13 Eric M. Gitonga, **Sammy W. Musundi**, Benerd M. Nzimbi, "*Metric Equivalence as an Almost Similarity Property*". Journal of Progressive in Mathematics (JPRM), Vol. 12(4), November, 2017.
- 14 Kilwake J. Wanjala, Mwakio Tole, and **Musundi Sammy**, "*Assessment of Water Quality in Boreholes and Wells in Waa Location, Kwale County –Kenya*". Journal of Scientific and Engineering Research, Vol. 4(5), 2017, 261-277.
- 15 **Musundi Sammy W**, Musyoka Kinyili, Priscah Moraa Ohuru. "*On Analytical Approach to Semi-open/Semi-closed sets in Metric Spaces*". International Journal of Discrete Mathematics, Vol. 2(2), 2017, 54-58.
- 16 Nzimbi B. M., Luketero S. W., Sitati N. I., **Musundi S. W.**, Mwenda E. *On Almost Similarity and Metric Equivalence of operators*. Accepted for publication -Pioneer Journal of Mathematics and Mathematical Sciences, June, 2016.
- 17 Mark O Okongo, Lawi George, **Musundi Sammy**, Adiel Magana. "*Modeling HIV/AIDS Co Infection with Malaria and Tuberculosis: The role of treatment and counseling*". Accepted for publication in International Journal of Applied Mathematical Research.
- 18 Mustapha M. Waseja, Mwenda Samwel N., **Musundi Sammy**, Jerebon Josephine and Pascal Ocheing, *An Empirical analysis of Commercialization of Small holder Farming: Its inclusive household Welfare Effects. 2005:2012*, Journal of Economics and Commerce Management, 2016, 1, 1-10.
- 19 **Musundi Sammy W**, M'mukiira Peter Mutwiri, Mungai Fredrick. *Modeling and Forecasting Kenyan GDP Using Autoregressive Integrated Moving Average (ARIMA) Models*. Science Journal of Applied Mathematics and Statistics. Vol. 4, No. 2, 2016, pp. 64-73.
- 20 Mohammed Mustapha W., Mwenda Samwel N., **Musundi Sammy W.** and Njoroge Elizabeth,

- Analysis of Volatility of Real Exchange Rate and Exports in Kenya using the Garch Model: 2005:2012*, Journal of Multidisciplinary Scientific Research, 3(4), 2015, 27-38.
- 21 Sitati N. Isaiiah, **Sammy W. Musundi**, Benerad M. Nzimbi and Kikete W. Dennis, *A Note on Quasi-similarity of Operators in Hilbert Spaces*, International Journal of Mathematical Archive, 6(7), 2015, 49-54.
- 21 Mwenda E., **Musundi S. W.**, Nzimbi B. M., Marani V. N., and Loyford N. *Distribution of Spectrum in a Direct Sum Decomposition of Operators into Normal and Completely Non normal parts*; International Journal of Modern Mathematical Sciences: Modern Scientific Press, USA, 11(3), 2014, 118-124.
- 22 **Musundi S. Wabomba**, Fredrick Muthengi, Njogu S. Muriuki, Ombaka C. Ochieng, Mugambi Dennis and Charles K. Gitonga, *Application of Banach space ideal properties in image transmission over wireless network*, Journal of Emerging Trends in Computing and Information Sciences, Vol. 5 (3) March 2014, 215-219.
- 23 Kinyanjui J. N, **Musundi S. W.**, Rimberia J., Mwenda E. and Rutto P. K. ``Suborbital Graphs and their properties for unordered pairs in $An(n=5,6,7,8)$ through rank and subdegrees determination'', Intern Research Journal of Pure Algebra, 3(12), 2013, 362-369.
- 24 **Musundi Sammy Wabomba**, ``On Norms of Ideals and their Properties in Banach Spaces'', PhD. Thesis, Masinde Muliro University of Science and Technology, 2013.
- 25 Kinyanjui J. N, **Musundi S. W.**, Rimberia J., Sitati N. I. and Makila P. ``Transitivity Action of $An(n=5,6,7,8)$ On Unordered and Ordered Pairs'', International Journal of Mathematical Archive 4(9), 2013, 1-2.
- 26 Ombaka O., **Musundi S. W.**, Gitonga L. K., Kibara. D. and Olivia A. N., *Rapid, Economical and selectiv Compexometric Determination of Iron (III) in its synthetic alloys using 3 hydroxy-3-phynyl-1-(2,4,6-tribromophynyl)* International Journal of Scientific & Engineering. Vol. 4, Issue 9, Sept. 2013.
- 27 **Musundi S. Wabomba**, Sitati N. Isaiiah, Nzimbi B. Mutuku and Murwayi A. Lunani ``On Almost Similarity Operator Equivalence Relation'', International Journal of Research and Reviews in Applied Sciences (IJRRAS) 15 (3) June 2013.
- 28 **Musundi S. Wabomba**, Ombaka C. Ochieng , Njogu S. Muriuki, Fredrick Muthengi, Mugambi Dennis and Shem O. Aywa, ``Conjecture of Banach space operator ideals in nuclear spaces'', Asian Journal of Current Engineering and Maths 2: 3 May – June (2013) 196 – 200.
- 29 **Musundi S. Wabomba**, Shem Away, Jan Fourie and John Matuya, ``Unconditional Banach Space Ideal Property'', Journal of Mathematical Sciences: Advances and Applications, Vol.18, No. 1-2, 2012, Pages 21-28.
- 30 Kirimi Jacob, **Musundi Sammy Wabomba**, Anthony Muthondu Kinyanjui, and Murwayi Alice Lunani, ``Magnetic field and hall current effect on Mud free convection flow past a vertical rotating flat plate'', Asian Journal of Current Engineering and Maths, 1: 6 Nov –Dec (2012) 346 - 354.
- 31 John Wanyonyi Matuya, Patrick Makila, Simiyu Achilles, Shem Away and **Musundi Sammy**, ``On Characterization of u -ideals determined by sequences'', Asian Journal of Current Engineering and Maths 1: 5 Sep –Oct(2012) 247 – 250
- 32 Sitati N. Isaiiah, **Musundi S. Wabomba**, Nzimbi B. Mutuku and KirimiJacob, ``On Similarity and Quasisimilarity equivalence relations'', Bulletin of Society for mathematical services & standards (B SO MA SS), Vol.1 No.2 (2012), pp. 151-171.
- 33 **Musundi S. Wabomba**, Shem Away and Jan Fourie, ``Equivalent Banach operator ideal norms'', International Journal of Mathematical Analysis, Vol. 6, no. 1, 19-27, 2012.

- 34 **Musundi Sammy Wabomba**, ``On The Convexity of A Generalized q -Numerical Range'', *Journal of Science Technology Education and Management (J-STEM)*, Vol. 3 no. 1 & 2, 2010.
- 35 **Musundi Sammy Wabomba**, ``On a Generalized q -Numerical Range'', MSc. Thesis, Maseno University, 2008.

PhD SUPERVISION

SN	Name	Title of Research Work	Date admitted	Status(Graduated Year/Continuing)
1	Mark Okongo Onyango	<i>MODELLING HIV/AIDS CO-INFECTION WITH MALARIA AND TUBERCULOSIS IN THE PRESENCE OF TREATMENT AND COUNSELLING.</i> - Chuka University	Jan 2014	Graduated with PhD. in Nov 2016
2	Jerimiah Ndung'uKinyanjui	``NORM ESTIMATES FOR NORM-ATTAINABLE OPERATORS''. -Jaramogi Oginga Odinga University of Science & Technology.	Sep, 2015	Graduated with PhD. on 1 st Nov 2019.
3	Jacob Kirimi	<i>COMBINED EFFECTS OF HALL CURRENT, ROTATION AND INCLINED MAGNETIC FIELD ON A FREE CONVECTION FLUID FLOW WITH HEAT AND MASS TRANSFER.</i> -Chuka University.	April, 2015	Graduated with PhD. on 18 th Oct 2019.
4	Edwin Mwenda	<i>SPECTRUM IN A DIRECT SUM DECOMPOSITION OF OPERATORS IN A HILBERT SPACE.</i> -University of Nairobi.	July, 2015	Ongoing PhD.
5	Antony Kinyua	<i>MINIMUM RANK OF GRAPH WITH PATH COVER NUMBER THREE.</i> -Chuka University.	Dec, 2015	Ongoing PhD.

MSc/BSc SUPERVISION

1	Eric Gitonga Muriithi	<i>METRIC EQUIVALENCE AS AN ALMOST SIMILARITY RELATION.</i> -Chuka University.	Nov, 2014	Graduated with MSc. on Oct 2018
2	Okwach Jimrise Onyango	<i>MODELING NITRATE LEACHING INTO GROUNDWATER USING ADVECTION-DISPERSION EQUATION.</i> -Chuka University.	Nov, 2014	Graduated with MSc. on Oct 2018
3	Muiruri Peter Guchu	<i>NORM OF ELEMENTARY OPERATOR IN TENSOR PRODUCTS.</i> -Chuka University.	Dec, 2016	Graduated with MSc. on Oct 2018
4	Ohuru Priscah Moraa	<i>NUMERICAL RANGE FOR FINITE LINEAR OPERATORS IN BANACH SPACES</i> -Chuka University.	Sep, 2017	Graduated with MSc. on Oct 2018

5	Esther Kawira	<i>NORM OF AN ELEMENTARY OPERATOR OF FINITE LENGTH IN A C^* ALGEBRA</i> -Chuka University.	July, 2017	Graduated with MSc. on Oct 2018
6	Elizabeth Mbatha	<i>FORMULATION OF THE SCHRÖDINGER EQUATION USING THE HILBERT SPACE OPERATOR APPROACH</i> -Chuka University.	July, 2017	Graduated with MSc. on 18 th Oct 2019
7	Nyabuto Fancy Nyabate	<i>ON CHARACTERIZATION OF CYCLIC PERMUTATION GRAPHS.</i> -Chuka University.	Dec, 2016	Graduated with MSc. on 21 st Dec 2020
8	Kangai Winfred	<i>ON CHARACTERIZATION OF THE TRANSFORMATION SEMIGROUPS GENERATED BY DIGRAPHS</i> -Chuka University.	Dec, 2017	MSc. Ongoing
9	Moses Wasena	<i>ON RELATIVE PROPERTIES OF CLO-OPEN SETS IN METRIC AND TOPOLOGICAL SPACES.</i> -Chuka University.	Jan, 2018	MSc. Ongoing
10.	Benjamin Kimeu Daniel	<i>APPLICATION OF STAMPFLI'S MAXIMAL NUMERICAL RANGE ON NORM OF ELEMENTARY OPERATORS IN TENSOR PRODUCT</i>	May, 2020	MSc. Ongoing
11.	Maraka Moses	<i>COMBINATORIAL PROPERTIES, INVARIANTS AND STRUCTURES ASSOCIATED WITH THE ACTION OF CARTESIAN PRODUCT OF THE ALTERNATING GROUP ON A CARTESIAN PRODUCT OF SETS OF ORDERED TRIPLES</i> -Chuka University.	May, 2020	MSc. Ongoing
12.	Amenya Collins Sule	<i>ORTHOGONALITY AND NORM -ATTAINABILITY OF GENERALIZED FINITE OPERATORS ON C^*-ALGEBRA</i>	Sept, 2020	MSc. Ongoing
13.	Koech Vincent	<i>APPLICATION OF EXPANSIVE MAPPING ON FIXED POINT THEOREM IN METRIC SPACES</i>	Sept, 2020	MSc. Ongoing
14.	Koros Amos	<i>TOPOLOGICAL APPROACH TO APPLICATION OF FIXED POINT THEOREM IN GAME THEORY</i>	Sept, 2020	MSc. Ongoing
15.	Mungai Fredrick	<i>MODELLING AND FORECASTING KENYAN GDP USING AUTOREGRESSIVE INTEGRATED MOVING AVERAGE (ARIMA) MODELS.</i> Chuka University.	Sept, 2013	BSc. (Economics and Statistics) Research Project. Completed in December 2013.

ATTENDANCE AND CONTRIBUTION AT CONFERENCES/WORKSHOPS/SEMINARS

Dates

2021, 28th June-
2nd July

Participation

Attended a RADIATION SAFETY OFFICER TRAINING organized by Kenya Bureau of Standards (KEBS) at Mombasa Continental Resort

2019, 6th – 9th Nov

Attended and presented three papers in the 6th INTERNATIONAL RESEARCH CONFERENCE, Chuka University

2019, 12 th - 16 th Aug	Attended and presented a paper in the 5 th STRATHMORE INTERNATIONAL MATHEMATICS CONFERENCE (SIMC 2019)
2019, 6 th -7 th June	Attended THE 7 th PROPOSALS AND ARTICLES WRITING WORKSHOP at Chuka University
2019, 6 th - 10 th May	Attended and Participated in a Training Course on National Cohesion and Values as a Focal Point Person at Kenya School of Government, Mombasa.
2018, 24 th -26 th October	Attended and presented two papers in the FIFTH RESEARCH CONFERENCE, Chuka University
2016, 28 th June	Attended a Workshop on INFORMATION SYSTEM SECURITY MANAGEMENT SYSTEMS at Chuka University
2016, 16 th -20 th May	Attended and presented a paper in the ST & I Conference, KICC- Nairobi
2015, 28 th -30 th October 2014	Attended and presented a paper in the 2 nd International Research Conference, Chuka University
2014, 29 th -31 st October 2014	Attended and presented a paper in the FIRST ANNUAL RESEARCH CONFERENCE, Chuka University
2013, 20 th August	Attended THE 3 RD RESEARCH TRAINING WORKSHOP at Chuka University
2013, 1 st November	Attended THE 3 RD PEDAGOGY TRAINING WORKSHOP at Chuka University
2012, 23 rd - 27 th July	Attended and presented a paper in the STRATHMORE UNIVERSITY INTERNATIONAL MATHEMATICS RESEARCH MEETING
2012, 24 th Feb	Attended an awareness training on QUALITY MANAGEMENT SYSTEMS ISO 9001:2008 at Chuka University College
2011, 24 th June	Attended a workshop on FUNDABLE PROPOSAL TRAINING at Chuka University College
2011, 8 th - 10 th June	Attended and presented a paper in the First Kenyatta University International Mathematics Conference, 2011
2011, 4 th -5 th May	Attended a seminar on PEDAGOGY & ACADEMIC ADVISING at Chuka University
2006, 4 th -10 th Dec	Attended Eastern Africa Mathematics Conference and Mathematical Biology workshop held in Nairobi

RESEARCH INTRESTS

Analysis (Functional Analysis, Operator Theory, Topology); Algebra; Mathematical Applications in Computer Science

CURRENT COLLABORATIVE RESEARCH PROJECTS/INTERESTS

Pure Mathematics:

1. **Title of the Project:** NORM BOUNDS OF OPERATORS RELATED TO INTEGRO-DIFFERENTIAL TRANSFORMERS WITH SPECTRA IN THE UNIT DISC FOR GENERATION OF Q-BITS IN QUANTUM SYSTEMS, SPILLITING OF CHEMICAL SYSTEMS AND COMPUTING
Area of Specialization of this research: COMPUTATIONAL MATHEMATICS.

2. Mathematical Analysis and in particular the application aspects of Abstract mathematics in Computer Applications and related areas. The following are some proposed open problems:
 - (i) Having managed to look at the Application of Banach Space Ideal Properties in Image Transmission over Wireless Network (Musundi et al. 2014 <http://www.cisjournal.org>), we intend to extend this research towards the application of Banach space ideal properties in measures of gapping some wireless communication risks which includes accountability, piracy and security measures in wireless network.
 - (ii) We intend to investigate applications of geometry to the design of error correcting codes, and of group theory and symmetry in the understanding of classification problems in information systems. The entire works would build on existing tools and techniques for the classification of structures that arise from a mathematical domain, and how these have applications in information theory.

Applied Mathematics:

We have developed a deterministic model for the simultaneous co infections of HIV/AIDS, Malaria and Tuberculosis in the presence of anti-retroviral treatment. We intent to develop a stochastic model for the same (HIV/AIDS, Tuberculosis and Malaria co infections in the presence of Anti- retroviral treatment).

COMMUNITY SERVICE

Member on the Board of PCEA Chuka Primary Academy, September 2019-Date

Member of Chuka University Committee on National Cohesion and National Values (Sep 2014 -Date)

Treasurer, FSET Welfare SHG, Chuka University- (2014-Date)

Member of Justice, Peace and Reconciliation Committee, Chuka town PCEA Church (2016 -Date)

Member of Consistent Bible Reading (CBR) Fellowship, Chuka-(Nov 2018-Date)

ACHIEVEMENTS/ ORGANISATIONAL SKILLS AND COMPETENCES

Dates	Activity
2015	<p>Lead principal in the Review of BSc. MSc. and PhD. Mathematics Programmes for Chuka University which majorly had new provision as:</p> <p>(a) Bachelors level: Revision of course coding; The introduction part giving details of the three areas of specialization i.e. Pure, Applied Mathematics and Statistics; Inclusion of an Industrial attachment and a project unit; Inclusion of Basic and technical computer units at first and second years of study; Inclusion of a research methodology unit at third year.</p>

	(b) Masters& Doctorate level: Specification of the three areas of specialization at masters level i.e. MSc in Pure Mathematics, MSc. in Applied Mathematics, MSc. in Statistic/Applied Statistics; Schedule for specific units done per semester including cores and electives ones for each area of specialization. Inclusion of Research methodology and Proposal writing units as cores for all the four areas of the MSc. Programme. Tailoring Doctorate programmes to have course work.
2016	Curriculum design of new programmes: Designed the following programmes for Chuka University, BSc. in Actuarial science, BSc. in Financial Mathematics and BSc. in Applied statistics.
October, 24 th -26 th 2018	A Rapporteur in the 5 th International Research Conference, Chuka University
October, 28 th -30 th 2015	A Rapporteur in the 2 nd International Research Conference, Chuka University
June, 26 th 2015	Moderator , Sensitization of Staff on Cohesion and National Values Workshop, Chuka University
May, 11 th -15 th 2015	Ag. COD, Department of Physical Sciences, Chuka University
October, 29 th -31 st 2014	A Rapporteur in the 1 st Annual Research Conference, Chuka University
December, 2014	Chairman, Chuka UASU Electoral Commission , Chuka University Chapter
Aug, 14 th -31 st 2009	Supervisor , National Census program, Webuye Division
2008 (19 th Oct.-17 th Nov)	Supervisor , KCSE Examination at SHAMTA Academy School, Kakamega

HOBBIES

Indoor games (Chess); playing soccer; Reading Scientific and Religious Literature; Traveling for adventure; Sharing life experiences.

URLs: www.researchgate.net; www.academia.edu; www.chuka.ac.ke; www.sciencepublishinggroup.com; www.jmest.org; www.ijdmath.org

REFEREES

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