CURRICULUM VITAE:

BIO-DATA

Prof N. Omolo Ongati, PhD (Mathematics)

Present Address: School of Mathematics and Actuarial Science
Jaramogi Oginga Odinga University of Science and Technology
P. O. Box 210 BONDO, Kenya
Tel: 254-**723340602**/737020707

Email   nomoloongati@gmail.com

Current Status: Professor of Mathematics

Jaramogi Oginga Odinga University of Science and Technology

Place and Date of birth: 5 November 1948 Kendu Bay, Kenya

Nationality: Kenyan

Home Address: Omolo Agar Primary School
P. O. Box 32
KADEL Rachuonyo District Kenya

ACADEMIC QUALIFICATIONS

PhD [Mathematics], 1997 University of Pretoria, South Africa.

Thesis Title: Stability of Lie Groups of Non-linear Hyperbolic Equations

MSc [Mathematics], 1979, Odessa State University, Ukraine (USSR)

Thesis Title: Application of Topology in The Solution Of Differential Equations

PGDE [Mathematics Education],1983, Leeds University, U.K

Speciality: Mathematics Education Curriculum and the use of Computers in Teaching Mathematics.

BEd (Science) Honours, 1976, University of Nairobi, Kenya.

London GCE, Advanced Level, 2 P and 1 S, Private Candidate   1972

Agoro Sare High School (Form 2)

Cambridge School Certificate, Div II, Private Candidate   1967

Oriwo Intermediate School, KAPE   1963

EXPERIENCE AND ACHIEVEMENTS

July 2010-present;   Full Professor of Mathematics

My notable achievements include; the development of the first PhD programme at Maseno University, published a series of academic papers which have appeared in reputable peer reviewed journals, taken charge of academic and administrative functions of different academic departments, schools, and faculties.

Sept. 2011-to date   Full Professor and Dean,School of Mathematics and Actuarial Science, Jaramogi Oginga Odinga University of Science and Technology, BONDO

July 2010-Sept 2011 Full Professor of Mathematics, Department of Mathematics and Applied Statistics, Maseno University, Kenya

July 1998-July 2010 **Associate Professor** of Mathematics, Department of Mathematics and Applied Statistics, Maseno University, Kenya

1990-July 1998   Senior Lecturer and Head of Mathematics Department, Maseno University, Kenya.

1996-1997   Part-Time lecturer, Vista University, Mamelodi Campus, Pretoria, South Africa and Vista University, Soweto Campus, Johannesburg, South Africa. Part-time lecturer, teaching undergraduate Mathematics courses.

1994-1997   PhD Student, University of Pretoria, South Africa ,and teaching both undergraduate and graduate courses.

1986-1993   Part-Time lecturer, University of Nairobi, Kikuyu Campus, teaching Mathematics for the external Bachelor of Education Degree Programme.

1987-1990	Lecturer, Department of Mathematics, Egerton University, Njoro, Kenya.
1984-1987	Tutorial Fellow/Assistant Lecturer, Kenyatta University, Kenya: Teaching Mathematics; Maths methods (Com-Tech) and Teaching Practice Supervision.
1981-1984	Senior Lecturer in Mathematics (Teachers Service Commission), Kenya Science Teachers College, Teaching Mathematics and Education / Skills of teaching to S1 and Diploma in Science Education students; Teaching Practice Supervision.
1976-1980	Teachers Service Commission (TSC) Taught Maths to both 'O' and 'A' level students at Kisumu Girls High School and Kisumu Boys High School
1968-1973	D.H.T. Secondary School [Private], Kisumu, Untrained Maths teacher. Taught Maths to Forms I-IV

OTHER TRAINING

1986 (January-June)	Distance Education University of Nairobi, Kikuyu Campus, Kenya, Preparation of learning materials i.e. lecture notes, audiocassettes, writing scripts, editing and voicing.
March 1982-Feb.1983:	PGD in Mathematics Education: Curriculum Development in Mathematics ,Centre for Science and Mathematics Education, University of Leeds; United Kingdom.
1979 (Nov-Dec)	Kenya National Examination Council Trained as a marker for 'O' and 'A' level mathematics & Primary and Diploma Teachers College Exams. NB: I am also a Braille Expert and I have been involved with trainees in Special Education (for the blind)

COMMUNITY LEADERSHIP AND SERVICE

1. Member Board of Governors(B.O.G) in the following Schools
   a) Maseno National School – 2001 to 2018
   b) Oriwo Boys Secondary School - 1991 to date
   c) Migingo Girls' Secondary School – 1999 to 2016
   d) Wikondiek Secondary School – 2004 –to date
   e) Karabondi Bidii Mixed Secondary School – 2007 -2015
   f) Karabondi Girls' Secondary School June 2012 to date
   g) Gendia High School – 2005 to 2008
   h) Kanyamfwa Secondary School – 2003 to 2007
   i) Nyangajo Girls Secondary School Jan 2016-to date

PUBLICATIONS:

Books/Lecture Notes Authored

1. Certificate Mathematics [High School Text Book] Vol. I, Co-authored, Camp and Bell Publishers, 1983.
2. Calculus I, Nairobi University Press, 1987 Co-authored with V. P. Onyango-Otieno, G.K. Thuo, G. Akwabi.
3. Calculus II, Nairobi University Press 1988 with V.P. Onyango-Otieno, G.K. Thuo, G. Akwabi.
4. Advanced Calculus, Nairobi University Press, 1989 With V.P. Onyango-Otieno, Gathogo K. Thuo
5. Vector Theory, Nairobi University Press 1991 with G. Akwabi and K.T. Gathogo.
6. Partial Differential Equations I, Nairobi University Press 1992.

Research Papers

1. **Omolo-Ongati** and E. E. Rosinger, stability of Lie Groups of the non-linear wave equation

   $U_{tt} + \varepsilon U_t = [f(x, u) Ux]_x$ when $f(x, u) = f_1(x) + f_2(u)$,

   Lie Groups and Their Applications, Vol 2, 1996

2. **Omolo-Ongati** and E. E. Rosinger, Stability of Lie Groups of the Non-linear wave equation

   $U_{tt} + \varepsilon U_t = [f(x,u)Ux]$ for arbitrary $f(x,u)$,

   VSP International Science Publishers, 1997, pp 305-315.

3. **Omolo-Ongati** General Solutions of Burgers" Equation. Journal of Differential Equations Vol. 99, No 2, 1998.
4. **Omolo-Ongati,** Lie symmetry Analysis of Differential Equations, Proceedings of selected works of the 8th International Colloquium on Differential Equations, VSP International Science Publishers, 1998, pp 217-230.
5. **Omolo Ongati** and M. O. Oduor**,** Symmetry Group Methods For Solutions of Generalized Heat Equation, Maseno University Journal of Education, Arts and Science,Vol.2 No.5,2006
6. Alfred W. Manyonge, George O. Lawi and **N. Omolo Ongati** Mathematical Modeling of Temperature Distribution in Porous Media, MJEAS Vol. 5 No. 2 2006 (91-98).
7. Bitok , J K, Chepkwony, S.K**, Omolo-Ongati N.,** Influence Of Hall Effects And Ion slip On MHD Free-Convection And Mass Transfer Flow In A Rotating Porous Medium With Heat Source, Journal Of Mathematical Sciences, International Centre For Advanced Studies, West Bengal, India, Vol.19. No.1 (2008) 21-31
8. Owino M. Oduor and **Omolo Ongati,** Modular Structure of sl(2), Journal of Research in Physical Sciences, Vol.4,No.3, (2008)32-38, International Research And Development Institute, Akwa Ibom State,Nigeria.

9. Alfred Koross, Jacob Bitok, Michael O.E. Oduor and **Omolo Ongati,** Explicit hybrid finite difference schemes from operator splitting for solving Korteweg de Vries equation, Journal of Mathematical Sciences, International Centre For Advanced Studies, India.Vol.19, No.2 (2008) 171-178

10. Paul O.Oleche, **N.Omolo Ongati** and J.O.Agure, Operators with slowly decaying resolvents toward the spectrum, International Journal of Pure and applied Mathematics Volume 51.No.3 (2009) 345-357.

11. Paul O.Oleche, **N.Omolo Ongati** and J.O.Agure, The algebra of smooth functions of rapid descent, International Journal of Pure and applied Mathematics Volume 52 No. 2 (2009) 163-176

12. **Omolo Ongati** and Owino M. Oduor**,** On The Structures Of Quotient Groups, International Journal of Pure and applied Mathematics Volume 54 No 4, (2009) 497-502

13. Alfred Koross, ChepkwonyS and Michael O.E. Oduor , **Omolo Ongati,** Implicit Finite Difference Methods Arising From Operator Splitting For Solving 1-D Heat Equation,Journal of Mathematical Sciences, International Centre For Advanced Studies, India Vol.20,No.1 (2009) 75-82

14. Owino M.Oduor, Chiteng'a J Chikunji, **Omolo N Ongati,** Unit Groups Of k+1 Index Radical Zero Commutative Finite Rings, International Journal of Pure and Applied Mathematics Volume 57 No. 1 (2009) 57-67

15. Koross Alfred, Oduor M.E. Okoya and **Omolo Ongati,** Hybrid finite difference schemes from operator splitting for solving Burger's equation**,** Journal of Agriculture, Pure and Applied Science and Technology (JAPAST) 1.45-52 (2009)

16. S.N. Onyango, **Omolo N Ongati**, and Nyakinda J. Otula. On the Walrasian-Samuelson Price Adjustment Model, International Journal of Pure and Applied Mathematics Volume 61, No.2 (2010) 211 – 218.

17. **Omolo N Ongati**, Analytic Solution of a Nonlinear Black-Scholes Partial Differential Equation, International Journal of Pure and Applied Mathematics, Volume 61 No.2 (2010)

18. **Omolo Ongati** and Owino M. Oduor**,** , (2008) Orthogonal extension of Lie algebras, International Journal of Pure and applied Mathematics-IJPAM.ISSN 1311-8080

19. **Omolo Ongati** and Michael E. Oduor**,** Symmetry Group Approach To The Solution Of Generalized Burger's Equation, International Journal of Pure and Applied Mathematics-IJPAM,ISSN 1311-8080

20. **Omolo Ongati,** Manyonge W. Alfreda and Okaka C Akinyi, Mathematics of War: Guerilla versus Guerilla Model, (2009),Journal of Mathematical Sciences, International Centre For Advanced Studies, India.

21. Manyonge W. Alfred, **Omolo Ongati** and Lawi O George, Mathematical Modelling of Temperature Distribution in Porous Media,(2009), International Journal of Pure and applied Mathematics-IJPAM.ISSN 1311-8080

22. Manyonge W. Alfred, **Omolo Ongati** and Okiro O Jared, Finite Difference Approximations of Confined Aquifer Flow Equations,(2008), Journal of Mathematical Sciences, International Centre For Advanced Studies, India

23. Stern, D., **Ongati, O.**, Agure, J & Ogange, B. (2010). Incremental modernisation of statistics teaching and curriculum at Maseno University, Kenya, ICOTS 8.

24. Alfred Koross, Michael O.E. Oduor & **Omolo Ongati**; An explicit operator splitting method for 1 – D modified burger's equation, Botswana Journal of Technology, Gaborone , Vol 18 No. 2 October 2009 19 - 21.

25. **Omolo N. Ongati**, Michael O. E. Oduor, Owino M. Oduor, Symmetry Group Approach to the Solution of Generalized Burger's Equation, International Journal of Pure and applied Mathematics ISSN 1311 – 8080 (2010)

26. J. Esekon, S. Onyango and **N. Omolo-Ongati;** Analytic Solution of a Non linear Black-Scholes Partial Differential Equation, International Journal of Pure and Applied Mathematics, Volume 61 N0. 2, 2010 219 – 230.

27. Osodo, J.; Indoshi, F.C.; **Ongati, O**.(2010).Application of computer based resources in geography education in secondary Schools.Educational Research, 1(7), 219-225 (International Research Journals).

28. Osodo, J.; Indoshi, F.C.; **Ongati, O** (2010). Attitudes of students and teachers towards use of computer technology in geography education. Educational Research, 1(5), 145-149 (International Research Journals).

29. Simiyu, W.D.; Akeyo, O.J.; **Ongati, O.N**.(2011) Relativistic dynamics in a non-inertial reference frame. International Journal of Pure and Applied Mathematics. (Academic Publications)

30. 25. Kwach, B.; **Ongati, O**.; Simwa, R (2011).Mathematical Model for Detecting Diabetes in the Blood. Applied Mathematical Sciences, 5 (6), 279 – 286 (Hikari)

31. Lawi G. O., Mugisha J. Y. T. and **Omolo - Ongati , N**. (2011) Mathematical Model for Malaria and Meningitis Co-infection among Children. Applied Mathematical Sciences, 5(47):2337 – 2359)

32. Omondi J. Ouno, Onyango S. N and **Omolo-Ongati**,(May 2013) Lognormal Distribution Of Demand For Equity Shares, IJESM vol3,Issue 5.pp57-62

33. B.Otieno Kwach, **Omolo Ongati,** M.Oduor Okoya, Amos Otedo, Mathematical Model For Drug Theraphy In Patients With Diabetes Melliticus, IJESM, Volume 2, Issue 1 (March 2013)

34. Boniface O. Kwach, **Omolo_Ongati**, David O. Alambo and Colleta A. Okaka, Derivation and solution of the heat equation in 1-D,IJESM Vol2,Issue2,ISSN:2320-0294(June,2013)

35. Olala, Gilbert Owuor, **N. Omolo Ongati,** On The Application Of Lagrangean Method: Mathematical Model For Measuring Welfare, IJMIE, Volume 3, Issue 8,(August 2013)

36. Oluoch M. F., **Omolo Ongati,** Factors Influencing Performance Of Staff In Public Technical, Industrial, Vocational and Entrepreneurship Training **(TIVET**) Institutions In Kisumu County, Kenya ,IJPSS, Volume 3, Issue 9, (September 2013).

37. Kati Robert, Owiti S.O. Dickson, **Omolo Ongati**, Teachers' gender and primary school pupils' achievement in Mathematics in Kenya, Journal of Education and Practice, Vol.4,No.25,(December,2013)

38. Apaka R.,Onyango S.,**Omolo Ongati** & Otula Nyakinda, Jumps in the Kenyan Interest Rates, IJMSE,Vol.5,No.11 (November2014)

39. Raymond Omollo, Neal Alexander, **Omolo Ongati** ,Oleche Paul, Timing for definitive Cure in Clinical Trials for Visceral Leishmaniasis,IJMSE,Vol.5,No.8 (August 2014)

40. Apaka R.,Onyango S**.,Omolo Ongati** & Otula Nyakinda, Option Pricing of an Asset with Seasonal and Periodic Supply,JMSE,Vol.5,No.12 (Dec.2014)

41. Joseph O.Nyakinda and **Omolo Ongati**, Deterministic Mathematical Model for Fish Harvesting, IJESRT,Vol.5 No 1 (January,2015)

42. Joel Ojuok Achienga, **Omolo Ongati**, Boniface Otieno Kwach,Mathematical Model for Drug Theraphy in Asthmatics,IJEMS, Volume 8,Issue 1,pp17-27 (Dec2015)

43. Joel Olielo Odongo, **Omolo Ongati**, Boniface Otieno Kwach, Mathematical Model for Nutrient Exchange Accros the Placenta,IJEMS, Volume 8,Issue 1,pp28-35 (Dec2015)

44. Kangogo Willy, N. B. Okelo and **Omolo Ongati**, Properties of local automorphism of commutative Banach algebra, Inter. J. Acad. Stud. 1(1): (2015) 7-13

45. Nyaluke Kiprono Wesley, N.B. Okelo & **Omolo Ongati**, Certain Inequalities for (α,β)-Normal Transaloid Operators on Hilbert Spaces, International Journal of Academic Studies 1(1) (2015) 60-65

46. , N. B. Okelo, Kangogo Willy and **Omolo Ongati** ,On norm preserving conditions for local automorphisms of commutative Banach algebras, Journal of Advanced Mathematics (2016)

47. Kangogo Willy, N. B. Okelo and **Omolo Ongati** ,Characterization of Norm Preservers for local automorphisms of commutative Banach algebras, International Journal: Mathematical Manuscripts (IJMM) Vol 5. No. 1 (2016

48. Nyaluke Kiprono Wesley, N.B. Okelo & **Omolo Ongati**, Characterizing (α,β)-Normal Transaloid Operators on Hilbert Spaces, International Journal of Academic Studies 2(1) (2016) 12-20

49. Were J, **Omolo Ongati,** Nyakinda J, Assets Valuation Using a Contingent Claim, International Journal of Science and Research, Vol. 6 No. 2(2017) 1460-1463.

50. Tinega Abel Karura, Oduor Okoya, **Omolo Ongati,** Investigation of the effects of Varying Junction Penetration Depth on Current Density Flowing Through the Long Josephson Junction, The Standard International Transactions on Computer Networks and Communication Engineering (CNCE), Vol. 4, No. 3 (2016) 43-48.

51. Tinega Abel Karura, Oduor Okoya, **Omolo Ongati,** Finite Difference Solution of (2+1)-Dimensional Sine-Gordon Equation: A model for investigating the Effects of Varying Surface Damping Parameter on Josephson Current Flowing through the Long Josephson Junction, International Journal of Science and Research, Vol. 5 No. 12 (2016) 1249-1255.

52. H. A. Ochieng, T. J. O. Aminer and Omolo Ongati, Numerical Solution of Dynamic Vibration Equation $\ddot{x}$=sechx , International Journal of Engineering and Mathematical Science, Vol. 10, No. 1 (2016) 36-44.

53. J.S. Prichani, T. W. Sakwa, **Omolo Ongati**, Functions of Multi-Pendula System in Spatial Motion, The Standard International Transactions on Computer Science Engineering and its Applications (CSEA), Vol. 5, No. 1 (2017) 1-5.

54. George O. Opiyo Nyangwe , T. J. O. Aminer , **N. Omolo Ongati,** Symmetry Analysis of Third Order Non Linear Ordinary Differential Equation which is Cubic in the Second Order Derivative, International Journal of Engineering and Mathematical Sciences, July – December 2016, Volume 10, Issue – 1, pp.1 – 12.

55. Seth H. W. Adams, **N. Omolo Ongati**, M. E. Oduor Okoya, T. J. O. Aminer, Two Dimensional Mathematical Models for Convective-Dispersive Flow of Pesticides in Porous Media, International Journal of Engineering Science and Computing, October 2016, Volume 6 Issue No.10, pp 2708-2713.

56. T. J. O. Aminer**, N. Omolo Ongati**, M. E. Oduor Okoya, Lie Symmetry Solution of Fourth Order Nonlinear Ordinary Differential Equation: (yy'(y(y')-1)")'=0, International Journal of Multidisciplinary Sciences and Engineering, Vol. 7, NO. 4, May 2016 , pp 15-20

57. Otedo Amos, Estambale Benson, **Omolo Ongati** & Simbiri Kenneth, Modeling of Liver Cancer Risk Factors and Dynamics at Community Level, Applied Mathematical Sciences, Vol. 11, 2017,no. 55, 2707-272

58. Otedo Amos, Estambale Benson, **Omolo Ongati** & Simbiri Kenneth, Mathematical modelling of Liver Cancer in Western Kenya, Applied Mathematical Sciences, Vol. 11, 2017,no. 58, 2855-2875

59. **Omolo Ongati**, Omollo R.O, Raburu G.O, Okelo B, Enhancing Data Security in Cloud Computng Using Addition Fully Homomorphic Encryption Scheme, IOSR Journal of Engineering(IOSRJEN),Vol.07,issue 10(October 2017,pp 20-29.

60. M.O.Oyake, B.N.Okelo, **O.Ongati**, Characterization of Inner Derivations induced by Norm-attainable Operators, International Journal of Modern Science and Technology, 2018;3(1):6-9

61. Kinyanjui J.N, Okelo N.B**..Ongati N.O**, Musundi S.W. Norm Estimates for Norm-Attainable Elementary Operators, International Journal of Mathematical analysis, Vol.12.2018,no.3.137-144

62. A.O.Wanjara,N.B.Okelo,,O.Ongati, On Characterization of Very Rotund Banach Spaces, International Journal of Modern Computation and Communication Technology, 2018,1(5):99-102.

63. A.O.Wanjara,N.B.Okelo,,O.Ongati, On Characterization of Very Rotund Banach Spaces, International Journal of International Journal of Computation and Communication Technology, 2019,2(1):1-4.

64. K.O.Onyango ,O.Ongati, N.B.Okelo, Graphs of Continuous Functions in Topological Spaces, International Journal of Modern Computation and Communication Technology, 2019,2(3):14-20.

65. B.Ogola, O.Ongati,N.B. Okelo, On Normality in Dense Topological Subspaces, International Journal of Modern Computation and Communication Technology, 2019,2(4),27-31.

66. P.O.Mogotu, B.N. Okelo and Omolo Ongati, On Compactness of Similarity Orbits of Norm-Attainable Operators, International Journal of Mathematics and its Applications,7(2)(2019),14-21.

SEMINARS/CONFERENCES ATTENDED

1. The first Eastern Africa Symposium on Pure and Applied Mathematics and Mathematical Education, Nairobi, Kenya, 1981.Workshop on Curriculum Development in Physics, Mathematics and Computer Science, Nairobi, Kenya, September 1986.

2. The Third Pan-African Congress of Mathematicians, Nairobi, Kenya, August 20 - 28, 1991.
3. First Conference of Kenya Mathematical Society, Nairobi, August 19-21,1992.
4. The V-th International Conference on Modern Group analysis, Johannesburg, January 1994.
5. The Sixth Internal Conference on Modern Group Analysis, Johannesburg, South Africa, January 1996. **Presented a paper, title:** Stability of the perturbed non-linear wave equation $U_{tt} + \varepsilon U_t = [f(x,u)Ux]_x$ where $f(x,u) = f_1(x) + f_2(u)$
6. Seventh International Colloquium on Differential Equations, Plovdiv, Bulgaria, 18 - 23 August 1996. Presented a paper, title: Stability of Lie Groups of the wave equation $U_{tt} + \varepsilon U_t = [fx,u)Ux]_x$ when $f(x,u)$ is arbitrary.
7. Eighth International Colloquium on Differential Equations, Plovdiv,Bulgaria 18 -23 August, 1997.Key speaker during Lie Group Session: Title of paper presented: Lie Symmetry Analysis of Differential Equations; *the Black Scholes Model.*
8. Career improvement workshop in the teaching of Mathematics and Computer Science in Kenyan Universities (both Public and Private), University of Nairobi, Chiromo Campus, 28th February-4th March,2000.Presented a paper, title: Contemporary issues in Mathematics Curricula.
9. The Fourth International Conference of Applied Mathematics and Computing (Plovdiv, Bulgaria, August 12-18,2007), invited lecture for 60 minutes.
10. Eighth International Conference On The Teaching of Statistics at Lubljana in Slovenia 2011.
11. First Kenyatta University International Mathematics conference, June 8-16,2011 .
12. International Conference on Mathematics Research and application at Strathmore University, 2011
13. International Mathematics Research meeting, July 23 -27, 2012 at Strathmore university-Convenor for Mathematical Biology workshop and a member of the overall Scientific committee.

POSTGRADUATE SUPERVISION

MSC (Mathematics)[GRADUATED]

1. Olala Gilbert Owuor

   Static Optimisation and welfare Measurement: Lagrangean Approach (2002)

2. Okaka C. Akinyi

   Mathematics Of War: Guerrilla Versus Guerrilla War Model (2005)

3. Owuor G Lawi

   Mathematical Model For Temperature Distribution in Porous Media (2005)

4. Onyando John Odondo

Deterministic Mathematical Model For Fish Harvesting: *Lates niliticus* **(Nile Perch) (2006)**

5. Wetoyi Sheth Adams

Mathematics of Pesticide Adsorption in A Porous Medium: Convective-Depressives Transport With Steady State Water Flow in Two Dimensions (2008)

6. Namuma Mildred

Mathematical Model For Biocontrol Of The Diamondback Moth (2008)

7. Apaka Boniface Rangita

Option Pricing Of Assets With Seasonal and Periodic Supply (2008)

8. Joyce Akinyi Otieno

Optimal Harvesting Of Stochastic Fluctuating Populations: The Case Of *Haplochromis (*Cichlid Fish) Population In Lake Victoria, Kenya (2006)**

9. Aminer Titus Odhiambo

Numerical Solution of Dynamic Vibration Equations (2007)

10. Omondi Joseph Ouno

Mathematical Model Of Market Equilibrium For Nairobi Stock Exchange (NSE) With Respect To Demand and Supply Of Shares (2008)

11. Nyakinda Joseph Otula

Derivation Of The Logistic Black-Scholes-Merton Partial Differential Equation: A case of Stochastic Volatility (2007)

12. Onam Joel Otieno

Numerical Solutions of Korteweg De Vries Equation (2008)

13. Ogutu Paul Otieno, MPH (Master Of Public Health)

Evaluation Of The Effectiveness Of Different Implementation Strategies On Adoption Of Home-Based Water Chlorination in Suba, Rachuonyo And Homa-Bay Districts, Nyanza Province, Kenya (2008

14 Ogol Isaack Okeyo

Numerical Solutions of Hyperbolic Sound Wave Equation in Viscous Medium (2010)

15 Nyakiti Samson Agia

Modeling Mechanistic-empirical Pavement Design: The case for Kenyan Roads (2011)

16.Okong'o Mark Onyango

Match Analysis of HIV/AIDS Models in Kenya(2011)

17.Ochieng' Daniel Achola

Mathematical Model for Poaching of Roan Antelopes inRuma Park, Kenya(2011)

18. Ogongo George Ochieng (2015)

Finite Difference Solution of a Parabolic Advection-Diffusion Equation with Constant Coefficient

19. Nyangwe George Ondiek Opiyo (2015)

Symmetry Analysis of Third Order Non Linear Ordinary differential Equation which is Cubic in the Second Order Derivative

20. Odindo David Onyinge (2015)

Mathematical Modeling Of Co-Infection of HIV/AIDS and Pneumonia with Treatment

21. Achienga Joel Ojuok (2016)

Mathematical Model for Drug Theraphy in Asthmatics

22. Odongo Joel Olielo (2016)

Mathematical Model for Nutrient Exchange Across the Placenta

23. Kangogo Willy (2017)

On Norm Preservin Conditions For Local Automorphisms Of Commutative Banach Algebras

24 Nyaluke Kiprono Wesley (2017)

Norms and Numerical Radii Inequalities For ($_{\alpha\ \beta}$)-Normal Transaloid Operators

PhD (Mathematics)[Graduated]

1. Okoya Edmund Oduor

Lie Symmetry Solutions Of The Generalised Burger's Equation (2005)

2. Paul O. Oleche

The Almost Analytic Functional Calculus (2008)

3. Alfred Koross

   Hybrid Finite Difference Schemes For Solving Non-linear Parabolic Equations (2008)

4. Owino Maurice Oduor (2009)

   Unit Groups of Certain Classes of Commutative Finite Rings

5. Nyakinda Joseph Otula(2011)

   The Derivation of a Logistic Nonlinear Black Scholes Merton Partial Differential Equation: European Option

6. Esekon Joseph Eyang'an(2011)

   On Analytic Solution of Nonlinear Black-Scholes Partial Differential Equation

7. Osodo Joseph (2011)

   Application of computer based resources in geography education in secondary schools

8. Lawi George Owuor (2013)

   Mathematical Models for Malaria Co-infections with Re-emerging Peadiatric infections among children in Kenya

9 Aminer Jaques Titus Odhiambo(2014)

   Lie Symmetry Solution of Nonlinear Fourth Order Ordinary Differential Equations

10 Odundo Fransis Okello(2014)

   Mathematical Modeling of HIV Infection and Tuberculosis in the presence of ARVs and Mother to Child Transmission

11 Kwach Boniface Otieno(2014)

   Mathematical Model for Drug Therapy in Patients with Diabetes Mellitus

12 Ouno Joseph Omondi(2014)

   Modeling of Demand Proces of Capital Shares by Mean Reverting Geometric Brownian Motion

23 Apaka Boniface Rangita.(2015)
    Jumps and Mean Reversion in Kenyan Interest Rates

    23. Kati Robert Omula (2015)
    Impact of Teachers With a Master's Degree in Mathematics Education on Students' Achievement in Secondary School Mathematics in Western Kenya

15 Raymond Vicky Ojwang' Omollo (2015)
    Definition and Analysis of End Points in Clinical Trials for Visceral Leishmaniasis

16. **Zablon Maua Muga (2016)**
    Stochastic Modelling of Motorcycle Accidents using Poisson and Negative Binomial as Error Term Distributions Assuming Polynomial Priors

17. **Erick Otieno Arieda Okuto (2016)**
    Reconstruction of Vegetation Index and Phenology Lab Enhanced Vegetation Index Record: *An Application of Weak Solution to Stochastic Partial Differential Equations Approach*

18. **Oduor Daniel Brian (2016)**
    Estimation of Volatility Using Mean Reverting European-Logistic Type Option Pricing Model (2016)

19. **Omieno, Kelvin Kabeti (2017)**
    A Usability Maturity Model on Internal Quality of Virtual Learning Systems

20. Obogi Robert Karieko (2018)
    On Complete Positivity and Boundedness of Operators in Non-Unital C*-Algebras

21. Adicka Daniel (2018)
    Characterization of Scalar Operators

ON GOING SUPERVISION

PhD (Mathematics)[

    .

1. Onyando John Odondo

Mathematical Modeling of Malignant Brain Tumor Growth: the Avascular Stage. (deceased)

2. Arori Wilfred Omwansa
   Growth Models for Bamboo Harvest Forecasting using Monte Carlo Simulated Variants (not active)

3. Adams Seth Wetoyi
   Mathematical Modelling Of Pesticide Adsorption in a Porous Medium

4. Owego Dancan Okeso
   Characterization Of essential Numerical Ranges and Davis-Wielandt Shells Of Hilbert Space Operators

MSC (Mathematics)[ON GOING]

1. Odeyo Fredrick
   Numerical Determination of Stability for an Alternative Brake Disc.

23. Obiero Ngutu Tom Kenneth
    Numerical Solutions of the Generalized Burgers Equation

24. Onyango Hughes Domnic Ongore
    Solution of the Seepage Equation Using Finite Element Methods

25. Ochola Moses
    On Norms Of Derivations Associated With Orthogonal Idempotents and Unitary Operators

EXTERNAL EXAMINATION

I have been an external examiner for Mathematics in the following Universities:

1	University of Nairobi	2002-2005
2	JKUAT	2003-2006
3	Strathmore University	2007 – 2010
4	Moi University	2008 - 2013
5	University of Nairobi	2008 - 2013
6	University of Kabianga	2009 – 2016
7	Strathmore University	2016 to Date

COMMITTEE MEMBERSHIP/OTHER RESPONSIBILITIES AT MASENO UNIVERSITY COLLEGE

2000-2006	Faculty of Science Representative at the Institute of Research and Postgraduate Studies
2000-2002	Director, University Time Table
2007-2008	Associate Director, School of Graduate Studies
1990-2000	Head, Mathematics Department
1990-1992	Chairman, Staff Housing and Accommodation Committee
1990-1991	Chairman, time tabling Committee
1991-1993	Member, Staff Disciplinary Committee
March-Dec.1992	Acting Dean, Faculty of Arts
1998-2001	Academic Board representative, MOI UNIVERSITY SENATE
1990 – 1999:	Permanent member of Appointment and Promotions Committee for Senior, Academic, Middle level and Unionisable Staff.

ACADEMIC PROGRAMMES INITIATED AND ESTABLISHED

At Maseno University

M.Phil. (Mathematics), programme.

D.Phil. (Mathematics) programme.

BSc actuarial Science

BSc Mathematical Sciences

At Jaramogi Oginga Odinga University Of Science and Technologye

BSc Applied Statistics

BSc Industrial Mathematics – Process ongoing

MSc Pure Mathematics–

MSc Applied Mathematics

MSc Applied Statistics–

PhD Applied Mathematics

PhD Pure Mathematics

PhD Applied Statistics

CURRENT RESEARCH PROJECT

Text Book Publication

1.Basic Non-linear Partial Differential Equations of Physics.

This is a graduate textbook we are writing with Prof. E. E. Rosinger from University of Pretoria, South Africa. The manuscript is complete and we hope to get the book published by this year 2019

2. **A Text Book on Analytical Mechanics**

The manuscript is ready and in the process of type-setting to be published this year 2019

Other Reseaeches Going on

Stability of Lie Groups of perturbed non-linear partial differential equations with perturbation of ε^p where $p \geq 2$.

Pupils understanding of basic mathematics concepts in Kenyan Secondary Schools curriculum.

Mathematical Modelling of Diseases and other Biological Phenomena

EDITORIAL BOARDS

Maseno Journal of Science and Education-EDITOR

East African Journal of Science-ASSOCIATE EDITOR

Nairobi Journal of Mathematics - EDITOR