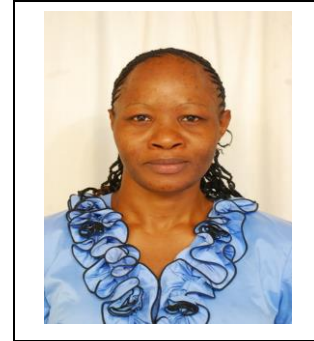


ACADEMIC STAFF PROFESSIONAL PROFILE



PERSONAL DATA

Name: Dr. Jane Kagwiria Rimberia
Title/Qualifications: Doctor, PhD in Pure Mathematics
Department: Mathematics and Actuarial Science
Contact Address: P.O.BOX 43844, 00100 Nairobi
Email Address: janekagwiri@yahoo.com
ORCID ID: 0000-0003-3041-5453
Google Scholar Account: [rimberia.jane@ku.ac.ke](https://scholar.google.com/citations?user=rimperberia)
Position: Senior Lecturer
Area of Specialization: Pure Mathematics
Research Interests: Combinatorics

QUALIFICATIONS

PhD in Pure Mathematics Kenyatta University	December 2011 Nairobi, Kenya
MSc. (Pure Mathematics) Kenyatta University	December 2007 Nairobi, Kenya
Bachelor of Education (Science), First Class Honours Kenyatta University	December, 2004 Nairobi, Kenya
Kenya Certificate of Secondary Education, B+	1998

EMPLOYMENT HISTORY

Senior Lecturer, Kenyatta University	January 2018-Present
Lecturer, Kenyatta University	January 2012-December 2017

Tutorial Fellow, Kenyatta University	September 2009- December 2011
Research Assistant, Kenyatta University	June 2009-August 2009
Part-Time Lecturer, JKUAT, DKUST, TUK	September 2007-May 2009

ADMINISTRATIVE RESPONSIBILITY

Departmental Examination Coordinator	June 2018-January 2019
Member of School Board of Undergraduate Studies (SBUS), School of Pure and Applied Sciences	December 2014-Present
Academic Advisor of I st Year Undergraduate Students	September 2011-Present

FELLOWSHIPS

2006: Awarded African Millenium Science Initiative (AMMSI) Research Fellowship

2005: Awarded a Postgraduate Scholarship by Department of Mathematics of Kenyatta University to pursue an MSc in Pure Mathematics

POSTGRADUATE SUPERVISIONS

Completed PhD supervisions

1. Kimani Patric Mwangi. Ranks, Subdegrees, Cycle Indices and tructures associated with the action of $PGL(2, q)$ and $PSL(2, q)$ on the cosets of their subgroups.
(Graduated 2019)
2. Stanley Rotich: I84/13582/09: Cycle indices, Subdegrees and Suborbital graphs of $PGL(2, q)$ acting on the Cosets of its Subgroups.
(Graduated 2016)
3. Richard Kariuki Gachimu: SC471-2295/2014: Combinatorial Properties, Invariants, Structures and Formulas Associated with Some Actions of the Alternating Group.
(Graduated 2016)
4. Fidelius Magero: I84/23078/11: Cycle indices, Subdegrees and Suborbital graphs of $PSL(2, q)$ on cosets of its subgroups.
(Graduated 2015)

Ongoing PhD Supervisions

1. Kadedesya Stephen. MC400-0005/17. Combinatorial Properties, Invariants and Structures Associated with the Direct Products of some Permutation Groups.

Completed Masters Supervisions

1. Miano Teresia Wambui. I56/38068/2016. Ranks, Subdegrees, Suborbital Graphs and Cycle Indices associated with the product action of $A_n \times A_n \times A_n$ on the Cartesian Product $X \times Y \times Z$.
(Graduated 2019)
2. Gikunju David Muriuki. JKU/2/11/SC71-3679/2015. Ranks, Subdegrees and Suborbital Graphs of Direct Product of the Symmetric Group acting on the Cartesian Product of Three sets.
(Graduated 2017)
3. Robert Gachie Kamau. I56/CE/28556/2013. Ranks, Subdegrees and Suborbital graphs associated with the Product action of $S_n \times S_n$ ($n \geq 2$) on the Cartesian Product $X \times Y$.
(Graduated 2016)
4. Patrick Kimani: I56/21447/12. Applications of Marks to Computation of Ranks and Subdegrees of the symmetric group S_n ($n = 6, 7, 8$) acting on ordered and unordered Pair and Triples.
(Graduated 2014)
5. Jeremiah Kinyanjui: I56/CE/13993/09. Ranks, Subdegrees and Suborbital graphs of the alternating group A_n ($n \leq 7$) acting on Ordered and Unordered 2-element Subsets.
(Graduated 2012)
6. Jacob Gachago: I56/CE/2277/10. Properties of the Alternating group A_n ($n \leq 7$) acting on Ordered and Unordered quadruples.
(Graduated 2012)
7. Cedric Ndarinyo: I56/CE/22029/10. Properties of the Alternating group A_n ($n = 5, 6, 7$) acting on Ordered and Unordered Triples.
(Graduate 2012)

Ongoing Masters Supervision

1. Dennis Ombati. I56/CE/28906/2015. Combinatorial Structures Associated with the Product action of $S_n \times A_n$ on the Cartesian Product $X \times Y$

2. Karimi Grace. I56/CE/34193/2017. Ranks, Subdegrees and Suborbital Graphs associated with the product Action of $D_n \times D_n$ on the Cartesian Product $X \times Y$ of vertices of Regular n-gons

EXAMINED PhD THESES

1. Mr. Olum Fredrick Oondo-PhD (Pure Mathematics), Kenyatta University. Thesis entitled “Suborbital Graphs of some Finite Permutation Groups and Groups whose Automorphism groups contain Permutation Groups.” (Graduated 2018)
2. Mr. Kangongo Moses Rutto-PhD (Pure Mathematics), Kenyatta University. Thesis entitled “Ranks and Subdegrees of the Cyclic Group, Dihedral Group and Affine Group and associated Suborbital Graphs.” (Graduated 2015)
3. Mr. Kariuki Njau Lawrence-PhD (Applied Mathematics), Kenyatta University. Thesis entitled “Implementation of Modified Procesi Algorithm to compute Covariants of Binary forms of up to degree Five and their Relations”.
(Graduated 2016)
4. Ms. Lydia Nyambura Njuguna- PhD (Pure Mathematics), Kenyatta University. Thesis entitled “Investigating Sedenion Extension Loops and Frames of General Hypercomplex Numbers”.
(Graduated 2012)

CONFERENCES/SEMINARS/WORKSHOPS

Participation

1. Attended the Third Kenyatta University International Mathematics Conference, Kenyatta University, Nairobi, 17th to 20th June, 2019
2. Attended the First Kenyatta University Workshop on Mathematical Modeling, Kenyatta University, Nairobi, 17th to 21st June, 2013
3. Attended the First Kenyatta University International Mathematics Conference, Kenyatta University, Nairobi, 8th to 10th June, 2011

Presentation of papers at Academic and Professional Conferences

1. Presented a paper titled “Ranks and Subdegrees of the Symmetric group S_n acting on ordered r -element subsets”, at the First Kenyatta University International Mathematics Conference held on 8th to 10th June , 2011 at Kenyatta University, Nairobi

Convening and Coordinating Conferences

1. From 19th December 2012 to 21st June 2013, participated in Planning and Organization of the First Kenyatta University Workshop on Mathematical Modeling, at Kenyatta University, Nairobi

RESEARCH AND PUBLICATIONS

Individual Publications

1. J. K. Rimberia, I. N. Kamuti. (2015). Finite Subgroups of the Orthogonal Group in three dimensions and their Poles. International Journal of Mathematics and Statistics Studies 3:1, 27-42. ISSN 2053-2229 (Print), ISSN 2053-2210 (Online).
<https://www.eajournals.org/journals/international-journal-of-mathematics-and-statistics-studies-ijmss/>
2. J. K. Rimberia, I. N. Kamuti. (2015). Subdegrees of Primitive permutation representations of the Symmetric Group S_5 , International Journal of Scientific Research and Innovative Technology 2 : 4, 26-33. ISSN: 2313-3759 (Online).
<https://www.ijsrit.com/>
3. J. K. Rimberia, I. N. Kamuti, B. M. Kivunge and F. Kinyua. (2013). Properties of Suborbits and Suborbital graphs of the Symmetric group S_n acting on ordered r -element subsets, Journal of Mathematical Theory and Modeling, 3:11, 115-120. ISSN 2224-5804(Print) ISSN 2225-0522 (Online).
<https://www.iiste.org/Journals/index.php/MTM>
4. J. K. Rimberia, I. N. Kamuti, B. M. Kivunge and F. Kinyua. (2013). Subdegrees of the Symmetric Group S_n acting acting on ordered r -element subsets, International journal of Science, Commerce and Humanities 1: 6, 112-118. ISSN 6164 (Print) ISSN 2053-5295 (Online).
<http://www.ijsch.com/journaluk>

Joint Publications

1. N. Kamuti, E .B. Inyangala and J. K. Rimberia. (2012). Action of Γ_∞ on \mathbb{Z} and the corresponding Suborbital graphs, International Mathematical Forum, 7: 30, 1483-1490 ISSN 1312-7594(Print) ISSN 1314-7536 (Online).
<http://www.m-hikari.com/imf.html>

Articles authored with students

1. Patrick Mwangi Kimani, Ileri Kamuti, Jane Rimberia. (2019). Rank and Subdegrees of $PGL(2, q)$ Acting Cosets of $PGL(2, e)$ for q an Even Power of e . International Journal of Algebra, 13(1): 29-36, ISSN: 1314-7595 (online) ISSN: 1312-8868 (print).
<http://www.m-hikari.com/ija/>
2. Gikunju David Muriuki, Nyaga Lewis Namu and Rimberia Jane Kagwiria. (2017). Ranks, Subdegrees and Suborbital graphs of Direct Product of the Symmetric group acting on Cartesian product of three sets. Pure and Applied Mathematical Journal , 6(1): 1-4, ISSN 2326-9790 (Print) ISSN 2326 -9812 (Online).
<http://www.sciencepublishinggroup.com/j/pamj>
3. R. Gachimu, I. Kamuti, L. Nyaga, J. Rimberia and P. Kamaku. (2016). Properties and invariants associated with the action of the alternating group on unordered subsets International Journal of Pure and Applied Mathematics, 106(1): 333-346 ISSN: 1311-8080 (Print); ISSN: 1314-33 (Online).
<https://ijpam.eu/>
4. Richard Gachimu, Ileri Kamuti, Lewis Nyaga and Jane Rimberia. (2015). On the suborbits of the alternating group an acting on ordered r -element, International Electronic Journal of Pure and Applied Mathematics, 9(3): 137-14, ISSN: 1314-0744.
<http://www.acadpubl.eu/ap/iejpam>
5. Gachago J., Kinyanjui J. , Kimani P., Rimberia J., Kiboi J. 2015. Transitivity of the action of Alternating group $A_n(n \leq 7)$ acting on Ordered and Unordered quadruples. Journal of Mathematical Theory and Modeling, 5:6 111-123 ISSN 2224-5804(Print) ISSN 2225-0522 (Online).
<https://www.iiste.org/Journals/index.php/MTM>
6. Kimani P., Rimberia J., Muthoka G., Lao H. 2015. Applications of marks to computation of ranks and subdegrees of the symmetric group acting on ordered

pairs and ordered triples. Journal of Mathematical Theory and Modeling, 4:13 95-102
ISSN 2224-5804(Print) ISSN 2225-0522 (Online).

<https://www.iiste.org/Journals/index.php/MTM>

7. Kinyanjui J. N., Musundi S. W., Rimberia J., Sitati N. I. and Makila P. (2013). Transitivity of the action of A_n ($n=5,6,7,8$) on unordered and ordered pairs. International Journal of Mathematical Archive-4(9), 77-88 ISSN 2229 – 504.

<http://www.ijma.info/index.php/ijma>

8. Kinyanjui J. N., Musundi S. W., Rimberia J., Mwenda E. and Ruto P. K. (2013). Suborbital graphs and their properties for unordered pairs in A_n ($n=5,6,7,8$) through rank and subdegree determination. International Research Journal of Pure Algebra -3(12), 2013, 362-369 ISSN 2248–9037.

<http://www.rjpa.info/index.php/rjpa>

Articles in Conference Proceedings

1. Rimberia J. K. and Kamuti I.N.: Ranks and Subdegrees of the Symmetric group S_n acting on ordered r -element subsets, First Kenyatta University International Mathematics Conference held on 8th to 10th June , 2011 at Kenyatta University, Nairobi.

NETWORKING AND COLLABORATION WITH EXTERNAL ORGANIZATION

1. June 2017: Appointed as a resource person in Curriculum review by the Chairman department of Pure and Applied Mathematics, Jomo Kenyatta University of Agriculture and Technology (JKUAT)
2. August 2013-July 2015: Carried out a research titled Applications of Cycle indices and marks of primitive permutation representation of the groups A_n and S_n , funded by the National Council of Science and Technology (NACOSTI), Kenya

EXTERNAL AND INTERNAL GRANTS

1. 2012: Awarded \$ 5, 120 Post Doc Research Grant by NACOSTI
2. 2010: Awarded \$500 PhD Research Grant by Kenyatta University
3. 2006: Awarded \$500 African Millenium Science Initiative (AMMSI) Post graduate

Research Grant

ACADEMIC LEADERSHIP

Developing of Teaching/Academic Programmes in Department/School/University

1. May 2019-Present: Convener of Departmental Curriculum Review Committee
2. May 2013 -July 2013: Member of the Ad-Hoc Committee appointed to review BSc.
(Statistics and Programming) Programme)
3. September 2012 -December 2012: Member of the Ad-Hoc Committee appointed to
Revise the Strategic Plan of Department of
Mathematics

EXTERNAL EXAMINATION

1. External Examiner of a PhD Thesis -Pan African University Institute of Science, Technology and Innovation (PAUISTI), Kenya in 2018. PhD thesis by Ms. Irene Achieng Okello entitled “The Spectrum of a class of Norlund Operators”.
2. External Examiner of a PhD Thesis -Pan African University Institute of Science, Technology and Innovation (PAUISTI), Kenya in 2018. PhD thesis by Mr. Geoffrey Onkundi Barini entitled “Fuzzy Hypercube Model for Classification Problems”.

MEMBERSHIP TO PROFESSIONAL BODIES

1. ORCID
2. Google Scholar
3. European Centre for Research Training and Development, UK