CURRICULUM VITAE

PERSONAL DETAILS

Name: Dr.Stephen Kibet Moindi

Address: University of Nairobi, School of Mathematics

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E-mail: Moindi@uonbi.ac.ke

Date of Birth: March 31st 1966

Nationality: Kenyan

Place of Birth: Nandi

Marital Status: Married

Languages spoken: English, Kiswahili, and Kikalenjin

WORK EXPERIENCE

Administrative Appointment

On 18th August 2014, I took over the position of Director, Board of Common Undergraduate Courses for a 3(Three) year term, renewable ones. My duties include, but not limited to, Administration and Coordination of Common undergraduate Courses. This position automatically makes me a member of the University Senate and participant in many University forums.

Acting Appointments

Currently the Acting Director Special Student Advisors Office.

I have on many occasions acted for Director, Center for International Programmes and Links **(CIPL),** and also for Special Student Advisor **(SSA).**The most recent occasions when I have acted in that position are shown below:

February 12, 2015: Courtesy call by the managing Director EP Global Energy.

February 10, 2015: Meeting Hon. Eng. Mabhoub Maalim, the Executive Secretary of IGAD with the Vice Chancellor.

February 10, 2015: Meeting Director EP Global Energy Ltd. With the Vice Chancellor

February 9, 2015: Signing of work-study-program MOU between University of Nairobi Alumni Association (UONAA) and Beta Healthcare.

January 22, 2015: Courtesy call by Mitsubishi Corporation and Official presentation of 2014/2015 annual scholarships

August 1st2015: Special Students Advisor.

Positions held in the teaching department

In my teaching career, I have risen within the ranks having started as a Graduate Assistant to my current position as Senior Lecturer. I have held and continue to hold senior positions during my teaching profession. Some of the positions held include the following:

- **2012 to date:** Senior Lecturer
- **2002 - 2012:** Lecturer in Mathematics, University of Nairobi, School of Mathematics
- **1997-2002:** Tutorial Fellow, University of Nairobi, School of Mathematics
- **1995-1997:** Graduate Assistant

Committee membership

I am a member of various committees at the school as indicated:

- Member of the Examination Committee, School of Mathematics
- Member of the Library Committee, School of Mathematics
- Member of the Strategic Plan Committee at School of Physical Sciences
- Member of Alcohol and Drug Abuse committee at the College of Biological and Physical Sciences

- Coordinator of Mathematics at School of Engineering

Teaching

I have been in the University teaching profession for now 21(Twenty one) years since 1995. I teach methods of Applied Mathematics,Numerical Methods, and Ordinary Differential Equations to both undergraduate up to Fourth year, and at Masters Degree levels. I specialize in Applied Mathematics-specifically in:

- Differential Equations (PDEs, ODEs)
- Geometry (Differential Geometry and Relativity)
- Dynamical Systems
- Non-Linear functional analysis

Areas of interest

My areas of interest in research work are:

- Functional Analysis
- Differential Geometry and applications of operators in differential geometry
- Bifurcations Theory and Chaos in Dynamical analysis
- On the Sasakian and related manifolds, I am interested in applications of Operator Theory in manifolds
- Ricci solitons

Student Supervision

I have supervised a number of students both at Masters and PhD level as indicated:

Students who have graduated under my supervision:

1. **Godwin Violet Msc (Applied Mathematics, UoN),** - *Thesis: Developments in the general theory of relativity and applications. Msc, 2012.*
2. **Ruganzu Kwimbabazi L. Fidele, Msc (Applied Mathematics, UoN),***Thesis: Fiber bundles and connections in Riemannian manifold, Msc, 2012*
3. **Murutu Ali, Msc (Pure Mathematics, UoN),** - *Thesis: On some transforms of linear operations in Hilbert spaces, Msc, 2012.*
4. **Kenguru Duke Matoke-**Msc (Applied Mathematics. UoN), - Thesis theory of relativity and their applications. Msc, 2013.
5. ***Wanjala Peter Pepela-*** *MSc.* (Applied Mathematics) - Thesis studies on (K,μ)-Sasakian Spaceforms. A comparative analysis MSc. 2013.

6. ***David Kimetto- MSc.*** (Applied Mathematics)- *A Study of W6-K-contact Riemannian Manifold, MSc. 2015.*

7. **Peter Wanjohi Njori-**PhD (Applied Mathematics) Thesis entitled *'' Curvature Tensors on Semi-Riemannian and Generalized Sasakian Space forms admitting Semi-symmetric metric connection", 2018.*

8. **Ruganzu Uwimbabazi L. Fidele,** PhD (Applied Mathematics) Thesis entitled **"**On *Ricci solitons as quasi-Einstein metrics", 2019.*

9.

PhD students whose research is on-going under my supervision:

1. ***Chagpar Fatemah Z.M****:Study of Physical properties of New Curvature Tensors and Exploring their applications in Area of General relativity*
2. **Presley Kiplagat:***Studies on symmetric and Semi Symmetric Sasakian Space forms*
3. **Jane Wanja Ireri:** *"Modeling delayed nutrient conversion in a two species competition with periodic nutrient input".*
4. **Loyford Njagi:** *On application of operator and group theoretic concepts in signal processing and cryptography*, Thesis under examination, defense expected in February, 2019.

PhD students due to graduate in 2019

1. **Loyford Njagi :** On application of operator and group-theoretic concepts in signal processing and cryptography.

2. **Ruganzu Uwimbabazi L. Fidele,** On *Ricci solitons as quasi-Einstein metrics.*

PhD Students Completed

1. **Peter Wanjohi Njori,** *Curvature Tensors on Semi-Riemannian and Generalized Sasakian Space forms admitting Semi-symmetric metric connection.*

2. **Ruganzu Uwimbabazi L. Fidele,** On *Ricci solitons as quasi-Einstein metrics.*

Publications

I have published a number of papers. I have a sizeable number of papers which have been submitted and accepted and are lined up for publication. The papers that I have either published or submitted for publication are as indicated below:

Research Papers

Following are the research papers which have either been published or have been submitted and accepted for publication:

Published in Refereed Journals since last promotion

1. **U. F. Uwimbabazi Ruganzu, S. K. Moindi, G. P. Pokhariyal and J. Katende :** $\eta -$ *Ricci solitons on Lorentzian Para-Sasakian manifolds,* **International Journal of Trend in Research and development.** Vol. 5(3), **ISSN 2394-9333, 2018.**

2. **S. K. Moindi, Katende J. K., and Pokhariyal G. P:***A Study of W2-Symmetric K-Contact Riemannian Manifold*, **International Journal of Innovation Science and Mathematics (IJISM),** Vol. 6, issue 1, ISSN (online) 2018: 2347-9051.

3. **S. K. Moindi, F. Njui, and Pokhariyal G. P:***A Study of W3-Curvature Tensors in K-Contact Riemannian Manifold,***International Journal of Innovation in Science and Mathematics (IJISM),ISSN (online Journal)** , Vol. 6, Issue 3, 2018 2347-9051.

4. **S. K. Moindi, F. Njui, and Pokhariyal G. P:***A Study of W_5-symmetric Curvature Tensor in K-Contact Riemannian Manifold,***International Journal of Trend in Research and development. ISSN 2394-9333,** Vol. 5, Issue 3, May-June, 2018.

5. **S. K. Moindi, P.N. Wanjohi, G.P. Pokhariyal :** *A study of W8-curvature Tensor in LP-Sasakian Manifold,* **Pioneer Journal Mathematics and Mathematical Sciences*, Volume 19,Number 2,2017,pages 65-75.***

6. **S. K. Moindi, P.N. Wanjohi, G.P. Pokhariyal :** *A study of W8-curvature Tensor in Sasakian Manifold,Volume20,Number 1,2017, pages 1-11.*

7. **S. K. Moindi:** *A study of W_7-curvature Tensor in LP Sasakian Manifold, International journal on future revolution in computer science and communication engineering Vol. 3 , Issue 10, 102-105, 2018.*

8. **S. K. Moindi, Katende J. K., and Pokhariyal G. P:***A Study of W4-Symmetric K-Contact Riemannian Manifold*, **International Journal of Innovation Science and Mathematics (IJISM),** Vol. 3, issue 2, ISSN (online) 2015: 2347-9051.

9. ***Pokhariyal G.P and Moindi S.K et al:*** *Model for HIV infection and Data Base. Journal of International Research in Medical and Pharmaceutical Sciences. Published 5(3) 134-140, 2015.*

10. **B. M. Nzimbi, G. P. Pokhariyal, and S. K. Moindi:** *A note on A-self-adjoint and A-skew-adjoint operators and their extensions:* ***Pioneer Journal of Mathematics and Mathematical Sciences (PJMM),*** Vol. 7, Number 1, 2013, Page 1-36.

11. **S. K. Moindi, G. P. Pokhariyal and B. M. Nzimbi:** ***W2-*** *Recurrent LP-Sasakian manifold:* ***Universal Journal of Mathematics and Mathematical Science****s,* Volume 3, Number 2, 2013, pp 119-128.

12. **B. M. Nzimbi, S. K. Moindi, and G. P. Pokhariyal:** *A note on metric equivalence of some operators.* **Far East Journal of Mathematical Sciences (FJMS),** Volume 75, Number 2, 2013, PP 301-318

13. **Justus K. Mile, B. M. Nzimbi, and S. K. Moindi:** *On characterization of class R1 of non-normal operators in a Hilbert space***: Pioneer Journal of Mathematics and Mathematical Sciences(PJMM),** Volume 7, Number 1, 2013, pages 1-36.

14. **Onyango Nelson, Muller Johannes, and Moindi Stephen Kibet:** Optima Vaccination Strategies in an SIR Epidemic Model with Time Scales A Scientific Research in Applied Mathematics, 2013, 4, 1-14.

15. **J. K. Katende, S. K. Moindi, and G. P. Pokhariyal:** Curvature Tensors in η-Einstein Sasakian Manifolds, **Universal Journal of Mathematics and mathematical Sciences**, Vol. 7, Issue 2, April 2015, 107-119.

16. **L. Njagi**, **B.M. Nzimbi and S.K. Moindi,** *Isomorphy and unitary isomorphy of some Hilbert space frames*, **International Journal of Mathematics Trends and Technology (IJMTT) – *Volume 65 Issue 1, 15-30, January 2019***,

17. **L. Njagi**, **B.M. Nzimbi and S.K. Moindi,***On analysis and synthesis operators and characterization of the synthesis matrix of a frame in terms of the frame operator*, **Journal of Advance Research in Mathematics and Statistics, 5, Issue 12, 1-10, 2018.**

18. **L. Njagi**, **B.M. Nzimbi and S.K. Moindi,** *On finite dimensional Hilbert space frames and pseudo-inverse of the frame operator,* **Journal of Advance Research in Mathematics and Statistics, 5, Issue 11, 1-14, 2018.**

Accepted in Refereed Journals

1. **L. Njagi**, **B.M. Nzimbi and S.K. Moindi,***On pseudo-inverses and duality of frames in Hilbert spaces,* **International Journal of Mathematics and Its Applications***,* accepted 19 January, 2019*.*

2. **U. F. Uwimbabazi Ruganzu, S. K. Moindi, G. P. Pokhariyal and J. Katende :** *η-Ricci Solitons defined with W8 curvature tensor and cyclic Ricci tensor on Para-Kenmotsu Manifolds,* **Advances in Pure Mathematics,** accepted, Vol. 8 No. 9 of September issue 2018.

3. **. F. Uwimbabazi Ruganzu, S. K. Moindi, G. P. Pokhariyal and J. Katende :** *η- Ricci solitons on Lorentzian Para- Sasakian manifolds,* **Applied Mathematics,** accepted, Vol. 9 No. 8 of September issue 2018.

4. **S. K. Moindi, P.N. Wanjohi, G.P. Pokhariyal :** *W8-curvature on generalized Sasakian space forms,* **International Journal of Innovation in Science and Mathematics (IJISM),ISSN (online Journal)** 2347-9051.*, Accepted November30th 2017.*

5. **S. K. Moindi, P.N. Wanjohi, G.P. Pokhariyal :** *W8-curvature Tensor in K-contact Riemannian Manifold,* **Pioneer Journal Mathematics and Mathematical Sciences,** *2016, to appear.*

6. **S. K. Moindi:** *A study of W_1-curvature Tensor in K-contact Riemannian Manifold,* **International Journal of Innovation Science and Mathematics (IJISM),** *accepted October 2017, to appear.*

7. **S. K. Moindi, P. Kiplagat, G.P. Pokhariyal :** *A study of W7-curvature Tensor in K-contact Riemannian Manifold,* **Pioneer Journal Mathematics and Mathematical Sciences,** *accepted 2016, to appear.*

8. **S. K. Moindi, Pokhariyal G. P, and Kimetto D:** *A Study of W6-K-contact Riemannian Manifold,* ***Pioneer Journal of Advances in Applied Mathematics,*** *accepted February 23, 2015, to appear.*

9. **Justus K. Mile and K. Stephen Moindi:** C-Numerical Range as a Generalization of the Q-Numerical Range, **Pioneer Journal Mathematics and Mathematical Sciences, a**ccepted February 25th 2015, to appear.

10. **Justus K. Mile and S. K. Moindi:** O*n the Unilateral Shift and Commuting Contraction,****Pioneer Journal of Advances in Applied Mathematics,***accepted February 25, 2015.

11. **J. K. Katende, S. K. Moindi, and G. P. Pokhariyal:***A Study of Lorentzian Para Sasakian Manifold*, **Universal Journal of Mathematics and Mathematical Sciences,** accepted February, 3, 2015, to appear.

Submitted

12. **U. F. Uwimbabazi Ruganzu, S. K. Moindi, G. P. Pokhariyal and J. Katende :** η – *Ricci solitons on Lorentzian Para-Kenmotsu manifolds,* **International Journal of Trend in Research and development,** submitted May 2018.

13. **U. F. Uwimbabazi Ruganzu, S. K. Moindi, G. P. Pokhariyal and J. Katende :** η – *Ricci solitons on Sasakian manifolds,* **International Journal of Innovation Science and Mathematics (IJISM),** submitted May 2018.

14. **S. K. Moindi, and G. P. Pokhariyal:** *A study of W8-Curvature tensor in K-contact Riemanian manifold, to be submitted.*

15. **L. Njagi, B.M. Nzimbi and S.K. Moindi**, *On application of dual frames in inverting Hilbert space operators*, **Linear Algebra and its Applications**, submitted June 2018.

16. **L. Njagi, B.M. Nzimbi and S.K. Moindi**, *Algebraic variety of frames with a prescribed frame operator and frame vector***, Journal of Mathematical Analysis and Applications**, submitted June 2018.

CONFERENCES AND WORKSHOPS ATTENDED

26TH-29TH June, 2011: At Agricultural Research Centre, Egerton University

Curriculum review, School of Mathematics, Degree Programme, to review courses offered at undergraduate programmes.

23rd-27th, August 2010: At National University of Rwanda, Butare, Rwanda

This was an International Modeling Week. This workshop was hosted by the National University of Rwanda (NUR) and sponsored by SIDA (Swedish Development Agency) and Linkoping University, Sweden. One of the tasks I engaged in was to examine M.Sc dissertations for Pure Mathematics and Applied Mathematics of eleven students at the Department of Applied Mathematics at NUR.

1st-3rd October, 2007: At CCU Main Campus, University of Nairobi

An in-house training programme in Pedagogical Skills

22nd-26th November, 2006: At KWS Training Institute (KWSTI), Naivasha, Kenya

I attended a School of Mathematics workshop on teaching of Mathematics, and Mathematics Research in Naivasha.

ACADEMIC QUALIFICATION

My academic qualification is as indicated below:

September 7th 2007: PhD in Applied Mathematics, University of Nairobi. My thesis was entitled: "Studies on Sasakian, Lorentzian Para (LP)-Sasakian Manifold and other Related Manifolds (University of Nairobi)

December 11th 1995: Master of Science**(Msc)** in Applied Mathematics (University of Nairobi)

November 19th 1993: Bachelor of Science **(Bsc)** in Mathematics with a minor in Computer Science (Kenyatta University)

REFEREES

1. Prof. Ganesh Prasad Pokhariyal

College of Biological and Physical Sciences

School of Mathematics

University of Nairobi

Current designation: Full Professor and Head of Applied and Industrial Mathematics

2. Prof. C. B. Singh

College of Biological and Physical Sciences

School of Mathematics

University of Nairobi

Current Designation: Associate Professor of Applied Mathematics

3. Prof. R.O. Simwa

College of Biological and Physical Sciences

School of Mathematics

University of Nairobi

Current Designation: Associate Professor and Head, Actuarial Science