

# CURRICULUM VITAE

**Name** : James Kamau Gatoto

## **INSTITUTION ADDRESS**

Kenyatta University,  
Department of Mathematics  
P.O. Box 43844-00100, **Nairobi**  
**KENYA**  
E-mail: drgatoto@yahoo.com

## **1. EDUCATION**

- 1993-1996 **Ph.D in Mathematics**. Egerton University -Kenya  
Thesis title: A CONTRIBUTION TO FINSLER AND CONFORMAL  
FINSLER SPACES. (Funding awarded by Egerton University)  
Supervisor: Prof. S.P. Singh (A leading Scholar in Differential Geometry of  
Generalized Spaces)
- 1980-1985 **M Sc. in Mathematics**, University of Kharkov (Ukraine)  
Thesis title: Properties of Grassman Image of Minimal Surface in the  
Four-dimension Euclidean Space.  
Supervisor: Prof. Yuriy A. Aminov (A leading Researcher and Scholar  
in Differential Geometry of Sub-manifolds)
- 1979-1980 **Russian Language Course**, University of Kharkov (Ukraine)  
1977-1978 **EAACE -2 Principals** (Aga Khan High School, Nairobi)  
1973-1976 **EACE -1st Division** (Aga Khan High School, Nairobi)  
1966-1972 **CPE** (Martin Luther Primary School, Nairobi)

## **2. TEACHING AND OTHER RELATED EXPERIENCES**

- (a) **Kenyatta University**  
January 2011: Associate Professor, Department of Mathematics
- (b) **Egerton University**  
March 2008: Associate Professor, Department of Mathematics  
June 1999-to Feb 2008: Senior Lecturer, Dept .of Mathematics.  
Dec 1992- June 1999: Lecturer, Department of Mathematics  
June 1991-Nov 1992: Assistant Lecturer, Department of Mathematics
- (c) **Kabarak University**  
Sept 2004-Dec 2004: Part- Time Lecturer (Vector Geometry)
- (d) **Warazo Jet Secondary School, Nyeri**  
Jan 1991-June 1991: Headmaster
- (e) **Kagumo High School, Nyeri**  
Sept 1985- Jan 1991: Mathematics Teacher.  
Sept 1986-Oct 1987: Teacher in charge of Counselling and Careers Guidance.  
Oct. 1987-Jan 1991: Deputy Headmaster.

### **3. PROFESSIONAL TRAINING**

#### **(a) Egerton University**

1992-1996: Research in Differential Geometry

#### **(b) University of Kharkov**

1980-1985: Trained in Mathematics, Pedagogy and Psychology

### **4. SERVICE**

#### **(a) University Service**

- **Director** -Kenyatta University Nakuru Campus- January 2011-January 2014
- **Chairman** - Department of Mathematics, Geography and Business Studies (Laikipia Campus College) 2000- March 2009
- **Ag. Dean**- Faculty of Education (Laikipia Campus College) 2003-2004 Academic Year.
- Performed the duties of the Principal- Laikipia Campus College ( Dec.2003-Jan 2004
- Member of the following :
  - Research and Publication –Committee at Laikipia University College
  - Editorial Board, Egerton Journal of Science and Technology
  - University ISO CERTIFICATION COMMITTEE (2006-2007)
  - Deans Sub-Committee on University Linkage with Industry and Exhibition (2003-2004)
  - University Publication Committee -2003
  - University Graduation Committee (2003-2004)
  - Senate Committee on Students Double- Intake-2002.
  - Vice-Chancellor’s Committee on Staff Allowances and Loan Facilities - 2001.
  - Library Committee ( Laikipia Campus College) 1991-1993
- Coordinator Counseling Services at Laikipia Campus College Counseling Unit. (1999-2000).
- Assistant Hall Warden (Laikipia Campus College) 1991-1993

#### **(b) Community Service**

- Member of the following:
  - Board of Governors - Afraha Secondary School, Nakuru, and Tumaini House (Secondary) School, Nakuru. Moi Forces Academy ,Lanet
  - School Committee - Moi Primary School, Nakuru ,
  - P.T.A Committee- Moi Forces Academy -Lanet
  - . Rotary Club of Nakuru
- Involved in mentoring the youths in Secondary Schools with the objective of improving their Academic Performances and Discipline.
- Donated Academic Shields and Academic Scholarships to students in several schools- Kagumo H.School in Nyeri, Afraha Sec. School, Tumaini H. School, St. Gabriel School,in Nakuru. Martin Luther Primary School, Nairobi

#### **(c) Academic/Professional Service**

- **Ph.D Supervision:**

- B.N.Githua : “Factors related to motivation to learn Mathematics among Secondary School students in Kenya’s Nairobi Province and three other districts of the Rift Valley Province”. ( 2002 )
  - M.N.Gichuki : “Topological Invariance and Manifolds Modeled on Convenient Spaces.”( 2010 )
- **External Examiner:**
    - Department of Pure and Applied Mathematics -(**J.K.U.A.T**)
    - Department of Mathematics and Informatics-**Taita Taveta Campus (JKUAT)**
    - Department of Mathematics and Physical Sciences,**Dedan Kimathi University of Technology.**
    - Department of Mathematics -**Chuka University**
  - **External Examiner(Theses) :**
    - Ph.D** Thesis for **J.K.U.A.T**- “A study of a hydro magnetic fluid flow in a rotating system bounded by two parallel plates” by Kirima.E.M (2009)
    - 
    - MSc.** (Mathematics) Theses for **J.K.U.A.T**
      - “Investigation of Fluid flows in Open Channels” - J. Nkorai
      - “Numerical simulation of Hydromagnetic dissipative fluid flow in a rotating system with constant suction” –D.N.Njogu
      - “Hydromagnetic flows between two parallel porous plates with constant suction”-Ndegwa A. Wahome.
      - “Analysis of Turbulent Flow for a Vertical Infinite plate in a Dissipative Fluid with Hall Current”-Willy Mukuna
      - MHD stokes Problem for a Vertical semi-Infinite Plate in a Dissipative Rotating fluid with Hall Current”-J.G. Abuga .
  - **Internal Examiner:** Ph.D (Mathematics) Thesis.
    - “Free Surface Fluid Flows for Explicitly Defined Solid Boundaries” by Ms. Gathia , P.W (2007)
  - **Referee for Journals :**
    - Journal of Agriculture , Science and Technology (JAST)
    - Egerton Journal of Science and Technology
  - **Conference/ Workshop Facilitation (Organization)**
    - A member of the Local Organizing Committee of **2<sup>nd</sup> Africa Regional Congress of International Commission On Mathematical Instruction Conference (AFRICME 2)** held at the Catholic University of Eastern Africa, Nairobi, Kenya. 22<sup>nd</sup> -25<sup>th</sup> May, 2007
    - A member of the Steering Committee of **Career Improvement Workshop in Mathematics and Computer Science** held at Chiromo Campus, University of Nairobi. 28<sup>th</sup> February - 3<sup>rd</sup> March 2000.

## **5. SCHOLARSHIP/FELLOWSHIP**

- U.S.S.R /Kenya Government Scholarship. 1979-1985 -M.Sc in Mathematics .
- Egerton University Scholarship 1993-1996- Ph.D in Mathematics

## **6. COURSES TAUGHT**

### **(a) Undergraduate Level**

- General Mathematics
- Geometry and Linear Algebra
- Ordinary Differential Equations
- Vector Analysis
- Calculus ( I &II )
- Differential Geometry
- Several Mathematics for Engineers Courses
- Methods of Applied Mathematics
- Partial Differential Equations

### **(b) Masters Level**

- Differential Geometry
- Riemannian Geometry
- Differential equations and dynamic systems

## **7. FIELD OF RESEARCH INTERESTS**

- Finsler and conformal Finsler spaces
- Areal spaces of Submetric class
- Special Kawaguchi spaces
- Geometry of Submanifolds
- Riemannian Spaces

## **8. RESEARCH PROJECTS**

### **1983-1985**

- Manifolds: A study of their properties
- Lie Groups and Manifolds
- Grassman Manifolds: Metrics and Measure in them.
- Master's Thesis: Properties of Grassman Images of Minimal Surface in Four Dimension Euclidean Space.

### **1992 -1996.**

- Riemannian Spaces
- Finsler Spaces
- Conformal Finsler Spaces
- Ph.D Thesis: A Contribution to Finsler and Conformal Finsler spaces.
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## **9. PUBLICATIONS**

### **(a) Refereed Journals**

- **JK. Gatoto and S.P. Singh** (2015) .On the decomposition of curvature tensor fields in conformal Finsler space II, Istanbul Univ. Sci. Fac. J. Math. Phys. Astr. **Vol.6 (2015)**, 7-13

- (2015) **J.K. Gatoto and S.P. Singh**: Curvature inheritance in  $R - \oplus$  recurrent Finsler space, *Tensor N.S.*, **Vol 74 (2013)**, pp 276-284.
  - (2015) **J.K. Gatoto and J.G .Muya**: On a bi-recurrent conformal Finsler space with decomposable curvature tensor I, *Tensor N.S.*, **Vol. 74.** pp 285-290.
  - (2015) **J.K. Gatoto and S.P. Singh**: **On a bi-recurrent conformal Finsler space with decomposable curvature tensor II**, *Tensor. N.S.*, **Vol. 74 (2013)** pp.291-295.
  - (2014) **J.K. Gatoto** :Curvature inheritance in Finsler space .*International Journal of Applied Mathematics &Statistical ScienRces (IJAMSS)* Vol. 4(3) (2014),pp 1-10
  - (2008) **J.K. Gatoto** : Symmetric curvature tensor in conformal Finsler space *Tensor N.S.*, **70** No 1 pp16-20
  - (2008) **J.K. Gatoto** and S.P.Singh: Projective  $\tilde{K}$ -curvature inheritance in Finsler spaces. *Tensor N.S.*, **70** No1 pp 1-7
  - (2008) **J.K. Gatoto** and S.P. Singh :  $\tilde{K}$ -curvature inheritance in Finsler space *Tensor N.S.*, **70** No1 pp 21-27
  - (2007)- **J.K. Gatoto** :On a symmetric tensor field in Finsler space II *Egerton Journal*, Vol VII No. 1 pp 103-110
  - (2005)-**J .K .Gatoto** and S.P. Singh: On a Symmetric Tensor Field in Areal Space of Submetric Class, *Istanbul Univ. Fen Fak. Mat. Fiz. Astro. Derg.* **1** pp 59-68
  - (2004)-**J.K. Gatoto** and S.P. Singh: Veblen Identities for conformal curvature tensor  $\bar{H}_{ijk}^i$  *Egerton Journal*. **Vol. V** No. 1, pp74-81.
  - (2001)-S.P. Singh and **J.K. Gatoto** : On the decomposition of curvature tensors in recurrent conformal Finsler Spaces , *Istanbul Univ. Fen Fak. Mat .(Turkey) Derg.* **60** ,pp 73-83
  - (2001)-S.P. Singh and **J.K. Gatoto**: Projective Motion in Finsler Spaces II; *Quaestiones Mathematicae* **24**, pp 175-181
  - (2000)-S.P. Singh and **J.K. Gatoto**: Veblen identities in a conformal Finsler Space, *Progress of Maths.* Vol. **34** (Nos. 1 &2), pp13-21
  - (1996-97)-S.P. Singh and **J.K. Gatoto**: Projective Curvature Collineation in Finsler space. *Istanbul Univ. Fen Fac. Mat. Dergisi* **55-56**, pp231-236 .
- (d) **Ongoing Research.**
- Recurrence properties of curvature tensors in Finsler, conformal Finsler and Special Kawaguchi spaces.
  - Curvature Inheritance in Finsler and Special Kawaguchi spaces.
  - Affine motion in bi-recurrent Finsler spaces

## 10. WORKSHOPS, SEMINARS AND CONFERENCES ATTENDED

### ▪ Workshops:

- **Biomathematics and Modeling of Complex Systems**, Naivasha, Kenya Pipeline Training Center, 21-27 June 2009.
- **Information Communication Technology/Programme for Enhancement of Research Information (ICT/PERI)** Training organized by J.D.Rockefeller Research Library, held at Laikipia Campus , Egerton University. 22<sup>nd</sup>-23<sup>rd</sup> October, 2008
- **Corporate Governance, Leadership and Strategic Thinking** Training Course at Hotel Cathay, Nakuru, Kenya, June 24-25,2008.
  - The Public Service Reform and Development Secretariat Capacity Building Programme **For Transforming The Public Service Result Based Management** For Senior Managers of Egerton University held at the A.R.C Hotel, Egerton University, 11<sup>th</sup>-12<sup>th</sup> April , 2007.
  - **Curriculum Review** organized by The Faculty of Education, Laikipia Campus College held at Stem Hotel, Nakuru ,. 29<sup>th</sup> -30<sup>th</sup> March, 2007.
  - **Implementation of ISO 9000 Standards** at .A.R.C Hotel, Egerton University, 13<sup>th</sup>-15<sup>th</sup> November, 2006.
  - **Leadership, Corporate Governance, Strategic Planning and Institutional Management** for Egerton University Officials, School of Monetary Studies, 16<sup>th</sup>-18<sup>th</sup> January, 2006.
  - **Research for Scientific Socio-Economic Development in New Millenium**. A.R.C Hotel, Egerton University. 17<sup>th</sup>-21<sup>st</sup> July, 2006.(Research Week)
  - **Test Development and Administration**, A.R.C Hotel, Egerton University 12<sup>th</sup> November, 2005 .
  - **Computational Tools in Curricular Reforms of Undergraduate Education- Focus on HIV/ AIDS**. Egerton University, Laikipia Campus ,5-6<sup>th</sup> July,2005 .
  - **Financial Management** Training for Egerton University Chairs of Depts. and Deans of Faculties. A.R.C Hotel, Egerton University. 4-5<sup>th</sup> July, 2005.
  - Egerton University **HIV/AIDS Mobilization** Workshop, at Lake Nakuru Lodge. 7<sup>th</sup>-9<sup>th</sup> June,2004 .
  - **Management and Supervision of School-based MA/ MEd/ MSc Projects/Theses**. A.R.C Hotel. 3<sup>rd</sup> February, 2005 .
  - Strategic Planning, Egerton University , Njoro . 14<sup>th</sup>-15<sup>th</sup> September, 2004 .
  - **Induction** for Lecturers Teaching courses to SSP School-Based Students, A.R.C Hotel , Egerton University 24<sup>th</sup> March , 2004 ..
  - **Achieving Quality and Effective Communication in Lectures** organized by the Department of Literature, Languages and Linguistics. Laikipia Campus College held at the Thompson Falls Lodge , Nyahururu –Kenya . 7-8<sup>th</sup> March, 2003 .
  - **Alternative Approaches to Teaching Practice Supervision and Management** held at Egerton University, Njoro .25-26<sup>th</sup> March ,2002 .

- *Students Academic Advising* held at Egerton University, 23<sup>rd</sup>-24<sup>th</sup> July, 2001.
  - *Gender Planning* held at the Thompson's Falls Lodge, Nyahururu 13<sup>th</sup> - 17<sup>th</sup> December, 2000.
  - *Career Improvement In Mathematics and Computer Science* held at the Department of Mathematics, Chiromo Campus, University of Nairobi, 28<sup>th</sup> February - 3<sup>rd</sup> March, 2000.
- **Seminars:**
    - **Leadership and Corporate Governance** for Egerton University Managers held at the School of Monetary Studies, Nairobi, 27<sup>th</sup>-29<sup>th</sup> June 2007
    - *Linking Industry, the University and Alumni in a working nation* organized by The Egerton University alumni Association and held on 24<sup>th</sup> April 2004 at the Kunste Hotel, Nakuru
    - Launching of *The Kenya Inter-University Network of Mathematics and Computer Science Institutions (MACKNET)* held at the Grand Regency Hotel, Nairobi on Friday, 29<sup>th</sup> June, 2001.
  - **Conferences:**
    - **Second Kenyatta University International Mathematics 2015** held at the Kenyatta University, Kenya, 16<sup>th</sup>-19<sup>th</sup> June, 2015.
    - **First Kenyatta University International Mathematics 2011** held at the Kenyatta University, Kenya, 15<sup>th</sup>-18<sup>th</sup> June, 2011.
    - **2<sup>nd</sup> African Regional Congress of International Commission on Mathematical Instruction (AFRICME 2)**.held at The Catholic University of Eastern Africa (CUEA), Kenya, 23<sup>rd</sup> May-26<sup>th</sup> May, 2007.
    - **82<sup>nd</sup> District Conference and Assembly Rotary international District 9200** held at Speke Resort, Munyonyo, Kampala, Uganda, 16<sup>th</sup>-19<sup>th</sup> May, 2007
    - *Launching Conference of African Council for Distance Education*, at ARC, Egerton University, Njoro, Kenya. 22<sup>nd</sup>-24<sup>th</sup> January, 2004
  - **Conference proceedings papers:**
    - **J. K. Gatoto:** On N-curvature inheritance in Finsler space, **Proceedings of the First Kenyatta University International Mathematics Conference (2011)** 81-89
  - **Conference papers presented:**
    - J.K. Gatoto (2015, June): Some results on curvature inheritance in special Kawaguchi space. (Paper was presented in the Kenyatta University Second International Mathematics Conference.)

- J.K. Gatoto (2011, June): On N-curvature inheritance in Finsler space.( Paper was presented in the Kenyatta University First International Mathematics Conference.)

#### **11. PROFESSIONAL MEMBERSHIP**

- Tensor Society of Japan
- Balkan Society of Geometers
- Governing Council of the Inter-University Network of Mathematics and Computer Science (MACKNET).
- Rotary Club

#### **12. SKILLS**

- **Languages** : English , Kiswahili , Russian
- **Computers**: MS Word; Fundamentals of MS-Dos; Introductory lotus 1-2-3; Introductory Dbase III Plus; Latex .