

CURRICULUM VITAE

SAMMY MULEI MUSYOKA

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Personal Details

Name	Sammy Mulei Musyoka
Date of Birth	28 th July 1966
Nationality	Kenyan
Marital Status	Married
Religion	Christianity, Protestant
Educational Qualifications	PhD (Karlsruhe, Germany)
Membership of Professional Institution	Institution of Surveyors of Kenya (ISK)

Key qualifications

- University Lecturer specializing in teaching, research and consultancy in the following areas: Survey Adjustments, Geodesy, Navigation and Space Positioning Methods and Geoinformation Systems.
- Leadership:
 - former Chairman of Department; dealing with Departmental administration and management
 - former Chairman, Professional Practice and Ethics of the Institution of Surveyors of Kenya (ISK)
- Licensed Surveyor
- Member, Land Surveyors Board

Employment Record / Career Progression:

Position	Period	Organization
Chairman, Department of Geospatial & Space Tech. (GST)	July 2011- July 2017	Department of Geospatial & Space Technology, University of Nairobi
Chairman (Acting), Dept. of GST	September 2007 – July 2011	Department of Geospatial & Space Technology, University of Nairobi.
Senior Lecturer	March 2011 – Date	
Lecturer	Aug. 1999 – March 2011	Department of Geospatial & Space Technology University of Nairobi
Assistant Lecturer	1994-1999	Department of Surveying, University of Nairobi
Graduate Assistant	1991-1994	Department of Surveying, University of Nairobi

Educational Background

1994 - 1999	Doctoral studies in Geodesy and Surveying at the University of Karlsruhe, Germany (including a German language course, PnDs).
1990 - 1993	Master of Science studies in Surveying & Photogrammetry at the University of Nairobi, Department of Surveying.
1987 -1990	Bachelor of Science studies in Surveying & Photogrammetry at the University of Nairobi, Department of Surveying (Second Class Honours, Upper Division).

1984 - 1985	Kenya Advanced Certificate of Education at Alliance High School (3 Principals and 1 Subsidiary).
1980 - 1983	Kenya Certificate of Education at Kangundo High School (First Division).
1973 -1979	Certificate of Primary Education – Passed.

Professional experience and some selected assignments:

2020- 2021	<ul style="list-style-type: none"> • Cadastral Mapping of Chuka Town, Tharaka Nithi County; Head of Survey Team • Wote Municipal Integrated Development Plan, Makueni County:- Head of Survey Team
2019	<ul style="list-style-type: none"> • Urban Planning & Mapping:- Head of Survey Team, Bomet County, Kenya
2018	<ul style="list-style-type: none"> • Team Leader and Consultant, Konza Techno- City Cadastral Surveying, UNES, Univ. of Nairobi. • Cadastral subdivision surveys
2017	<ul style="list-style-type: none"> • Kenya Slum Upgrading Projects: Cadastral surveys
July 2015:	<ul style="list-style-type: none"> • Consultant, Topographic Surveying at ICDCC farm for purposes of Master plan preparation, Eldoret. UNES, Univ. of Nairobi.
June 2015:	<ul style="list-style-type: none"> • Consultant, Topographic Surveying at Dongo Kundu resettlement plan, Mombasa. UNES, Univ. of Nairobi. • Cadastral subdivision surveys
2014	<ul style="list-style-type: none"> • Team Leader and Consultant, Konza Techno- City Cadastral Surveying, UNES, Univ. of Nairobi. • Cadastral subdivision surveys
2013-2014	<ul style="list-style-type: none"> • Consultant, Digital Mapping of the Galana- Kulalu ranches involving 1.7 million acres for irrigation purposes.
Dec. 2011 -Feb 2012	<ul style="list-style-type: none"> • Project Team leader for a research project funded through ISK to determine maximum and minimum land parcel sizes in some Counties in Kenya.
May 2010 – 2015	<ul style="list-style-type: none"> • Part of a Consultant team on establishment of a modern geodetic system in Kenya led by Ministry of Lands and Swedish International Development Aid.
2009 -2010	<ul style="list-style-type: none"> • Project Team leader for a research project funded through ISK to construct a prototype Land information system for peri-urban areas in Nairobi
Oct – Dec 2009	<ul style="list-style-type: none"> • Team leader for a 230- acre topographic mapping for SEUCO in Kitui.
April – August 2006	<ul style="list-style-type: none"> • Route Survey of Telecommunication Microwave Links using GPS throughout Kenya with <i>Pete Aviation Limited</i>.

Authored and co- authored several publications and research work including:

<p>Matara S., Siriba D., Kiema J.B.; and Musyoka S.M. 2021; Predicting Displacement Effects of Tectonic Movements on the Kenyan Geodetic Reference Frame Network (KENREF). Accepted as a FIG conference paper for June Conference</p>
<p>Kimuyu J. S, Muthama, J. N, Musyoka, S.M, 2017: Ecological Niche Modelling for Spatial Temporal quantification of the Changing Dynamics of Malaria Vector Distribution in Kenya under Climate Change Forcing. International Scientific Journal of Scientific and Technology Research , Vol. 5, Issue 6 ISSN 2277 - 8616</p>
<p>Siriba D.N, Musyoka, S.M, Matara, S.M, 2016: Improvement of Volume Estimation of Stockpile of Earthworks Using a Concave Hull- Footprint. International Scientific Journal for Micro, Macro and Mezzo Geoinformation, No. 5, 11 – 25pp</p>
<p>Kimuyu J.S.; Nzioka J. Muthama and Sammy M. Musyoka, 2016; Modeling Alteration of Malaria Vector Ecological Niches by Bioclimatic Envelope Models. Peer reviewed publication in Conference proceedings in GIS International Conference at Masinde Muliro University of Technology; ISBN 978-9966-096-54-8 May 2016</p>
<p>Odera P.A. S.M. Musyoka and M.K. Gachari, 2014; Practical Application of the Geometric Geoid for Heighting over Nairobi County and its Environs. Journal of Agriculture Science and Technology (JAGST) VOL. 16(1) 2014.</p>
<p>Musyoka, S.M, Karanja, F.N; Mwathane, I. 2012; Establishment a pro poor Land Information Management System. Case Study: Part of Thika Municipality. Research Funded by the <i>Land Development and Governance Institute</i> (LDGI)</p>
<p>Musyoka, S.M and Karanja, F.N; 2012; Determination of minimum and maximum land holding. Case Study: Kajiado County, Transzoia County and Kisii County. Research Funded by the <i>Institution of Surveyors of Kenya</i> (ISK).</p>
<p>Musyoka, S.M.; Mwathane, I.; Wayumba, G.O.W.; March, 2010: Development of a proto-type land information management system for the peri-urban areas in Nairobi: Case study of Kitengela area. Research project funded by the <i>Institution of Surveyors of Kenya</i> (ISK). (Reviewed by a panel of experts engaged by ISK).</p>
<p>Karanja, F.N.; Alegana, V.A.; Musyoka, S.M 2009; The Use of GIS and Remote Sensing in mapping malaria prevalence: Case Study of Bondo and Kisii Districts, in Nyanza Province, Kenya. International Journal of Spatial Health. Published in November 2009.</p>
<p>Kiema, J.B.K., Kipkemei, A., Karanja, F.N., Musyoka, S. M.; 2007: Using Geoinformatics to Identify Suitable Middle to Long Distance Athletics’ Training Sites in Kenya. International Journal of Sports Science & Coaching. Vol. 2 No. 4. 2007, pp 473 - 484</p>
<p>Odera P.A. and Musyoka, S.M.; 2006: Combining geometric geoid and transformation parameters to facilitate local GPS Surveying in Nairobi area. Proceedings of the Deutscher Akademischer Austauschdienst held in Nairobi, 30th Nov. – 1st Dec. 2006.</p>
<p>Musyoka, S.M.; 1999: <i>A model for a four-dimensional integrated regional geodetic network</i>. Ph.D. thesis. (http://www.ubka.uni-karlsruhe.de/vvv1999/bau-verm/1/1.bib)</p>
<p>Musyoka, S.M.; A contribution to four-dimensional positioning. In: <i>Progress in Geodetic Science at GW 98</i>. Ed. W. Freeden. Shaker Verlag Aachen 1998. Pages 169-176.</p>
<p>Musyoka, S.M. and Aduol F.W.O.; 1997: A three-dimensional geodetic network model for the analysis of localised earth deformation. <i>Survey Review</i>. No. 263, Vol. 34. January 1997.</p>

Musyoka, S.M.; 1993: *Mathematical modelling and design of a three-dimensional geodetic network*. M.Sc. Thesis, University of Nairobi (unpublished).

Selected Conferences, Workshops and Lectures

1.	Participant, FIG Annual Conference held in Christchurch, New Zealand 1 st – 6 th June 2016.
1.	Participant, Training Workshop on the Social Tenure Domain Modelling organised by the UN-Habitat at the Brevan Hotel Bomet Kenya from 23 rd -26 th February 2015.
2.	Presented a topic on, “Georeferencing” to members of the Institution of Surveyors of Kenya on 18 th July 2014 at the GreenHills Hotel, Nyeri.
3.	Participant; Conference on Geo-referencing at the Whitesands Hotel Mombasa, March 2013
4.	Participant, National Land Use Policy Formulation; 21st - 25th May 2012 at lake Elementaita Country Lodge, Naivasha
5.	Participated in review of the National Land Commission Bill, Land Bill and the Land Registration Bill organised by ISK (March 2012).
6.	The Role of Geospatial Technology in Addressing the Challenges of Environmental Management. Africa Geospatial Forum 6-8 September 2011; 6 th Annual African Conference & Exhibition on Geospatial Information Technology & Applications; Safari Park Hotel, Nairobi, Kenya.
7.	Presented a topic “The Global Navigation Satellite Systems and the proposed modern geodetic network in Kenya (KENREF)’ at a Departmental Seminar held on 20 th April 2011 at the University of Nairobi
8.	Participant at UNHABITAT Workshop on Urbanisation at the UN headquarters in Gigiri, 11 th - 15 th April 2011
9.	Presented “Design of a modern geodetic network in Kenya (KENREF)’ and participated in the Land Reform Transformation Unit (LRTU) Workshop held on 28 th -29 th April 2010 at Pan Afric Hotel in Nairobi.
10.	Attended a Workshop on Kenya National Spatial Data Infrastructure, September 2008
11.	Attended a workshop on Kenya National Spatial Data Infrastructure in Nairobi on 30 th April 2007.
12.	Attended a workshop on Science and Technology policy for sustainable development in Kenya organised by University of Nairobi DAAD Scholars at Milimani Hotel from 11 th Nov. – 12 th Nov. 2004.

Ph.D. and MSc. Student Examinations

Participated in many M.Sc. oral examinations in the School of Engineering and Ph.D oral examinations at the College of Engineering & Architecture, UoN.

M.Sc. Student Supervision

Year	
2019	Awiti, Fredrick Onyango; Stability Determination of Rooftop Installed CORS Stations: Case Study of Part of KENREF Network
2018	Thiong’o Peter, Njuguna; Continuously operating reference stations (CORS): Transformation between KPLC CORS System and the Kenya National geodetic System
2017	Innocensia Owuor; Developing A Web-Based Gis Application For Mapping The Electrical Grid Network In Kenya
2016	Wanjohi, Martin Muriuki: GIS based Power Transformers Planning and Location.
2015	Jattani, Hussein Hirsi; A Prototype Land Information System: Case Study of new Taveta Town (<i>Completed</i>)

2014	Chai, Rhoda; Use of GIS/ Remote Sensing Techniques to Estimate Coconut Cultivation Area: Case Study: Kaloleni Sub- County (<i>Completed</i>)
2014	Ondicho, Nancy; Developing a Geodatabase for Rural Electrification Authority (<i>Completed</i>)
2013	Maina, Peter, Ndirangu: Multi-Criteria Suitability Analysis For Optimal Siting Of A Geothermal Well: Case Study Of The Greater Olkaria Geothermal Area (Goga) (<i>Completed</i>)
2012	Gichuki, D.; Comparison of LIDAR and RTK GPS elevations. Case study: Kisii Municipality (<i>Completed</i>)
2012	Muumbi, E.M.; Investigating the Geothermal Potential of Lake Magadi using GIS and Remote sensing Technology. (<i>Completed</i>)
2009	Kassim, O.; Using GIS to analyze and mine- planning a limestone quarry based on exploration information. (<i>Completed</i>)
2008	Motuka. M.; GIS in Facilities Management: Case study of the U-Block at the Kenya

	Polytechnic University College, Kenya. (<i>Completed</i>)
2007	Njuguna, F. M.; The use of GIS for Midstream Petroleum Management: Case study of Lodwar- Lokichar Section. (<i>Completed</i>)
2007	Abuto, W.; The use of GIS technology in the development of an interactive geodetic network information system with application in Kenya. (<i>Completed</i>)
2004 - 2006	Odera, P. A.; Determination of the Geoid in Nairobi area. (<i>Completed</i>)
2001 - 2002	Kipyegon, S. R.; Monitoring of Vertical Deformation at Olkaria Geothermal Power Station. (<i>Completed</i>)

Ph.D Supervision / Examinations

Participates in PhD written and oral examinations at the University of Nairobi.

Year	
2019 -	Sammy Mwangi Matara
2018 -	Chodavarapu Bhagya Rajya Lakshmi
2011 – 2015	Kimuyu, J.S; (<i>Completed</i>)
2012 -2014	Muketha S. (<i>Completed</i>)

Short Term Training/ sensitization

1.	Attended a one month International Training Course on “Satellite Navigation and Location Based Services” at Ile-Ife, Nigeria (4 th – 29 th October 2010) - Certificate
2.	Attended a 1- day re-fresher training on ISO 2001-2008 held in February 2010 at UoN
3.	Toponymy Training Course for East Africa (Certificate) held at RCMRD 1-3 May 2009 organised by United Nations Group of Experts on Geographical Names (UNGEGN)
4.	Environmental Training Audit, 2008
5.	Rapid Results Initiative, 2007
6.	Pedagogy Training, 2007
7.	International Standards Organization (ISO) 9001:2000 Quality Management System, 2007

Service to Society

Year	Assignment
2017 - todate	Member Land Surveyors Board, Kenya
2014 - 2018	Chairman, Professional Practice & Ethics, ISK
2012 - 2014	Chairman, Geospatial (Land) Surveyors Chapter of the ISK
2009	ISK Constitution Review member
2008 – 2011	Board Member, Makutano Secondary School, Machakos.

2006 - 2011	Board Member, Kabaa High School, Machakos.
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Languages

Language	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Kiswahili	Good	Good	Good
German	Fair	Good	Fair
Mother tongue	Excellent	Excellent	Excellent

Referees:

Prof. F.W.O. Aduol,
Vice - Chancellor, Technical University of Kenya
Tel. 0722585797

Prof. F. N. Karanja (Mrs)
Associate Professor & Chairman, Dept. of Geospatial & Space Tech.,
Department of Geospatial and Space Technology, University of Nairobi
P.O. Box 30197, - 00100 Nairobi Tel. 020-318262

Prof. P. Odira
Dean School Engineering (former),
College of Architecture & Engineering, University of Nairobi.
P.O. Box 30197, - 00100 Nairobi Tel. 020-318262



Name: Dr.-Ing. S.M. Musyoka

Date: 26th April 2021