

Samuel MungaiMbuguah

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**Objective:** To contribute to the advancement of knowledge in the area of Information Technology(IT) and Computer Science

### **Working Experience**

**2019-Present Kibabii University  
Bungoma**

#### **Associate Professor / Director ICT**

- Teaching and Supervising Post graduate and Undergraduate students and heading the Directorate of ICT
- Programme Leader MSc in Computer Science
- Chairman NRF Project Implementation Committee in the establishment of Data Centre, Mobile Computing laboratory and Video conference, Cisco Lab and Digital Forensic
- Performed the Duties of Vice Chancellor for three days in March 2020
- Attended a workshop in Navaisha on implementation state corporation management software system.
- An assessor for candidates applying for Chartered Engineering status for the Engineering Council.

**2016-2019 Kibabii University  
Bungoma**

#### **Senior Lecturer/ Director ICT**

- Teaching and Supervising post graduate and Undergraduate students and heading the Directorate of ICT
- Attended one day training on negotiation by FKE
- Chair of a sessions in the in past three International Conference held at Kibabii University
- An external Examiner in Laikipia University
- An external Examiner in Alupe University College
- An external Examiner in MasindeMuliro University of Science and Technology U
- Chaired a adhoc committee investigating the cause student rioting in the University
- A Member of various committees in the University including (Senate,UMB, ICT)
- Chair ICT Board



- An ISO Auditor
- Attended a training on research proposal writing
- Chair Kibabii University Election Commission During the 2018 students elections
- Project Manager for CCTV installation implementation committee
- Project manager ERP implementation
- Lead in ISMS implementation
- Chair KEC during the 2019 students election
- Attended a workshop on OdEL
- Attended training by ICT authority (ICTA) on ICT standards
- Performed the duties of Deputy Vice Chancellor (ASA) on various occasions.
- Performed the duties of Deputy Vice Chancellor (AFD) for five days
- Have been external reviewer for Enterprise Computing curriculum for certificate, Diploma and Degree by Mount Kenya University.
- Program leader in MSc IT
- Convener for MSc Computer Forensic and Security
- A mace bearer during the 2017 graduation

**2013-February 2016 Kibabii University**

**Bungoma**

**Lecturer / Director ICT**

- Teaching Undergraduates Computer Science & IT Units
- Teaching post graduate students in Information Technology.
- Heading the Directorate of ICT in the University[ leading a team of ICT experts, developing policy, developing work plan, developing budget and ensuring the development ICT infrastructure, ICT services and Website are available)
- A member of University Management Board
- Chairman Webometric Committee and Procurement Committee
- A member various other committee of the University
- Attended and facilitated workshops and seminars
- Supervising post graduate students
- Chairman school post graduate Committee
- Project Manager ERP implementation
- Attended one week workshop on integrity assurance officers

**2008-2013**

**Masinde Muliro Uni. Of Science and Technology**

**Kakamega**

**Assistant Lecturer**

- Teaching Undergraduates Computer Science & IT Units also taught Digital Animation to Journalism students.



- Teaching post graduate students in Information Technology.
- Supervising undergraduate and post graduate students.
- Fourth year project coordinator.
- Industrial attachment coordinator.
- Quality assurance coordinator.
- Program Coordinator Computer Science
- Program Coordinator SOLACE
- Acted as chairman of Department.
- Acted as director of ICT.
- Participated and coordinated workshops and seminars.
- Funded by the University to conduct research in E-Voting.
- Produced two draft student handbooks in Computer application & Digital electronics and Microprocessors
- Published a report on the research findings on E-Voting debate in Kenya from *MMUST University research funds*
- Presented my PhD research finding and Progress at PhD seminar held on November 2012 and March 2013 at MMUST.
- Attended a half day seminar on NCST funded research in February 2013

**2004-2009 Jomo Kenyatta University of Agriculture and Technology Juja**

**Part Time Lecturer**

- Taught various units to undergraduate students.
- Taught post graduates students system engineering and IT strategies.

**1993 – 2008 NYS engineering Institute Nairobi**

**Ag Head of Department/Lecturer**

- Incharge of the departmental budget.
- Incharge of training function of department.
- Increased the programs offered in department from 1 to 4.(Telecommunication Engineering, Electronic engineering, Computer science and Information Technology)
- Achieved more the 80% pass rate in units taught.
- Developed training material handbooks in control and digital electronics.
- Achieved 100% student attachment placement.
- Facilitated seminars and workshops

**1988-1993 Kenya Institute of Mass and Communication Nairobi**

**Ag.Ast. Lecturer/Inspector (electronics)**



Maintained, installed, operated and taught electronics based units. Apart from engineering students we also trained student taking Film production, Radio production, TV productions and Journalism.

### **Education Background:**

**2010-2013 Masinde Muliro Uni. Of Science and Technology Kakamega**

Attained a Doctor of Philosophy (PhD) In Information Technology- My research topic was Attackability metrics model for secure service oriented softwares funded by NCST.

**2001- 2003 University of Sunderland UK**

Attained a Master of Science in Computer based information systems.

**1997-2000 Chartered Engineering Institute UK**

Attained BSc (Honours)Equiv. in electronic Engineering (ECE Part II ABC). I am a Chartered Engineer.

**1989- 1991 Kenya Polytechnic Nairobi**

Attained a Higher Diploma in Electronic Engineering.

**1985-1988 Kenya Institute of Mass and Communication Nairobi**

Attained a Diploma in Telecommunication Engineering.

**1981-1983 Njoro High School Njoro**

Attained Two principles and Two subsidiaries passes in my "A" Levels and won awards in science congress competition. A class monitor. Chairman of the photographic club

**1981-1983 Njoro High School Njoro**

Attained a Division one 17 points in my "O" levels. Active member of science club

**Interest** – In photography, community affairs, religious activities, farming and business

**Professional societies-:** A professional member of ACM and BCS. Also a Chartered Engineer and an assessor for Chartered Engineers under the Engineering Council United Kingdom

### **Publications**

- i. Published a paper Security issues in virtualized environments for small and medium enterprises International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume 06, Issue 05, May 2017, ISSN: 2278 – 1323..M Vincent, **M Samuel**, M Shem Angolo



- ii. Published a paper Factors that influence the choice of virtualized environments in small medium enterprises. International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume 06, Issue 05, May 2017, ISSN: 2278 – 1323.M Vincent, **M Samuel**, M Shem, Angolo
- iii. Published a paper Titled Application Lifecycle Management Activities for Quality Assurance in Software Development in International journal of trends in research and developments (ISSN:2394-9333) Vol 4 Issue 2 March \_April 2017.O Tobias,, **M Samuel**, K Juma, T Harriet, Loice
- iv. Published a paper titled Discoverability a new Learnability Principle for Children application software International journal of Computer Science & Information Technology (ISSN:0975-3826) Vol 8 No 4 August 2016.  
BK Okelo, **SM Mbuguah**
- v. Published a paper entitled a review of mobile social Software Awareness and Utilization in international Journal of Science & Research Vol 5 issue 10 October 2016 ISSN:2319-7064.  
N Masese, **M Samuel**, M Geoffrey, Muchiri
- vi. Published a paper titled Interface features, Program Complexity and Memorability as indicators of Learnability of Mobile Social Software in International journal of Science and Research Vol 6 Issue 10, October 2017 ISSN:2319-7064. N Masese, **M Samuel**, M Geoffrey, Muchiri
- vii. Published a paper titled factors influencing the selection of mobile phone among Universities students in Kenya. In the International Journal of innovative Research and Advanced studies Vol 5 issue 5 , May 2018 ISSN 2394-4404. R Richard, K., **M Samuel**, W Franklin
- viii. Published a paper Innovative features driving mobile phone usage by students in Kenya. In the International Journal of Modern Trends in Engineering and Research, in 2018 ISSN 2349-9745, R Richard, K., **M Samuel**, W Franklin
- ix. Published a paper titled Evaluation Guidelines for Security threats in Mobile –Phone Banking In the International Journal of Engineering and Mathematical Sciences June 2018, Volume 13, Issue 1 ISSN 2319-4545. P Ngomeh, **M Samuel**, K Omieno
- x. Published a paper titled Facilitating Factors for CyberSecurity Vulnerabilities in Kenya County Governments In the Asian Journal of



research in Computer Science , Vol1, Issue 1,2018 ,V Kadima, **M Samuel**,  
K Omieno

- xi. Published paper titled Implementation Evaluation Metrics for Enterprise Resource Planning Solutions published in Current Journal of Applied Science and Technology Vol 32 Issue 3 2019 ISSN 2457-1024. **SM Mbuguah**, F Wabwoba, CK Wanjala
- xii. Published a paper titled trends in information security in Universities in International Journal of Innovative Research and Advanced Studies (IJIRAS)Volume 4 Issue 11, November 2017. D Otanga, **S Mbugua**
- xiii. Published the paper titled Hotel Branding using Facebook and Dialogic Principles of Internet Communication in International Journal of Advanced Research in Computer Engineering & Technology, Volume..8..Issue....2...February-2019...pp..38..-..46.. ISSN 2278-1323. O Patrick, **M Samuel**, I Anselemo
- xiv. Published a paper titled Factors Affecting Information Systems user Satisfaction in Kenyan Universities Journal of Emerging Trends in Computing and Information Sciences Vol. 7, No. 2 February 2016 ISSN 2079-8407 . P.Nelima, **S.M.Mbuguah**. K.Omieno
- xv. Published a paper titled Using Twitter in Branding Hotel Strategies in Kenya in the International Journal of Advanced Research in Communication and Computer engineering Vol April 2019 ISSN 2278-1021.O Patrick, **M Samuel**, I Anselemo
- xvi. Published a paper in Security Shortcomings of Electronic Web Based Voting Systems for Universities in Kenya IOSR Journal of Computer Engineering (IOSR-JCE) e-ISSN: 2278-0661,p-ISSN: 2278-8727, Volume 21, Issue 5, Ser. II (Sep - Oct 2019), PP 01-09 www.iosrjournals.org P. Simiyu, **Dr. Samuel Mbuguah**
- xvii. Published a paper on Challenges facing the disposal of E-waste in Kenya Public Universities IOSR Journal of Engineering (IOSRJEN) www.iosrjen.orgISSN (e): 2250-3021, ISSN (p): 2278-8719Vol. 09, Issue 4 (April. 2019), K R. Nakhanu, **M Samuel**, K Juma
- xviii. Map of the various configuration attributes from IPv4 to IPv6 networks for dual stack, 6to4 tunnelling and NAT: modelling designs in OPNET modeller International Journal of Computer Science and Mobile Computing,2018. SW Barasa, **SM Mbugua**, SM Karume



- xix. Published a paper titled a conceptual model of a holistic predictive attackability metrics model for secure service oriented softwares in *International journal of information technology research* ISSN-2223-4985.Vol.7 pp:579-585 . July 2012. **SM Mbuguah**, W Mwangi, PC Song, GM Muchiri
- xx. Published a paper titled Social attackability metrics in the *International journal of information technology research* ISSN-2223-4985 Volume 3 No. 6 June 2013. **SM Mbuguah**, W Mwangi, PC Song, GM Muchiri
- xxi. Published a paper titled Experimental Validation of attackability model has been accepted for publishing by *International journal of information technology research* ISSN-2223-4985Volume 3 No. 6 June 2013.**SM Mbuguah**, W Mwangi, PC Song, GM Muchiri
- xxii. Published a paper titled Trends in Adoption of Open Source Software in *Africa Journal of Emerging Trends in Computing and Information sciences* ISSN 2079-8407 pg 69-78 January 2013 **S Karume, SM Mbuguah**,
- xxiii. Published a paper titled Integrating Virtual Worlds and Virtual Learning Environments in Schools in Developing Economies. *International Journal of Information and Communication Technology Research. ISSN-2223-4985.Vol.2 (1) pp:17-22* K Omieno, G Wanyembi, **S Mbugua**
- xxiv. Published a paper titled Determination of Information Systems service Quality Attributes in Banking Industry *International Journal of Technology in Computer Science & Engineering*, Volume 1(2), June 2014, pp 40-51 Available online at <http://www.ijtcse.com> ISSN 2349-1582SW Njoroge, **SM Mbuguah**, GM Muketha
- xxv. Published a paper titled ICT personnel maturity towards green ICT in Kenya.*International Journal of Computers & Technology. 13(3):4319-4328* ISSN 2277-3061. 2014. W Franklin, **M Samuel**, I Anselemo, Peters, S Dorcus, Arshley
- xxvi. Published a paper titled A Review of Algorithms for Determination of Attackability Metrics in *Journal of Emerging Trends in Computing and Information Sciences* Vol. 5, No. 4 April 2014 ISSN 2079-8407  
**SM Mbuguah**, M Geoffrey, Muchiri, W Franklin
- xxvii. Published a paper titled Intervention Measures towards Successful Implementation of Software Projects in Public Universities in Kenya In *Journal of Emerging Trends in Computing and Information Sciences* Vol. 5, No. 4 April 2014 ISSN 2079-8407. PW Soita, **SM Mbuguah**, MO Ujunju, G Wanyembi
- xxviii. Published a paper on Environmental implications of cell phones penetration and disposal in Kenya. *International Journal of Computers & Technology* 2014. 13(7):4647-4652 ISSN 2277-3061. F Wabwoba, T Sakwa, **S Mbugua**, HJ Kilwake

- xxix. Published a paper on Effect of real time settlement of financial performance of public universities in Kenya. Global journal of commerce and management.vol 4(2) 2015.ISSN2319-7285. A. Nangila ,**S.Mbuguah**, R, Fwamba
- xxx. Published a paper titled Evaluation of the learnability principles of mobile wireless information systems application software for children in Kenya Vol. 6, No 6 June 2015 ISSN 2079-8407 BK Okelo, **SM Mbuguah**
- xxxi. Published a paper Information Security Risks Posed by the Bluetooth Security Weaknesses to the Bluetooth-Enabled Phones Journal of Emerging Trends in Computing and Information Sciences Vol. 6, No. 12 December 2015 ISSN 2079-8407 ©2009-2015 CIS Journal. All rights reserved. <http://www.cisjournal.org> C.K.Wanjala ,**SM Mbuguah**, SM. Karume
- xxxii.** Published a paper Modeling User Experience with Universities Websites Based on Webometric Ranking User Analysis. *International Journal of, Computer Trends and Technology (IJCTT) – Volume6 8 Issue 4-April 2020* Adeline Mukanda <sup>#1</sup>, **Samwel Mbuguah**, Franklin Wabwoba Aselemo Ikoha

### Conference

- i. Presented a paper titled Evolving information technology: opportunities and challenges in *First information Communication Technology(ICT) conference at Multimedia University college University in Kenya 2012*. A.*Shiradula*, **SM.Mbuguah**
- ii. Presented a paper on Hotel website evaluation model in the context of web 3.0 paradigm in IFTT\_Doctoral summer school proceeding – June 2017
- iii. Presented a paper of Evoting in Kenya in I ST international Conference in Kibabii University held in June 2016. **M Samuel, Mungai**, M Geoffrey, Muchiri, M Samuel
- iv. Presented a Paper on Social engineering attacks awareness in KibabiiUniversity in Second international conference held in Kibabii in June 2017. **SM,Mbuguah** , T.Otibine
- v. Presented a Paper [Factors Influencing the Selection of Mobile Phone among University Students in Kenya](#) Proceedings of 3rd Interdisciplinary International Scientific Conference .2018 R Richard, K., **M Samuel**, W Franklin
- vi. Presented a paper Energy Efficient Programming Attributes in Mobile Applications Environment 3<sup>rd</sup> International Conference held in Kibabii University in June 2018.M Adeline, **M Samuel**, W Franklin



- vii. Presented a paper on Implementation of BitTorrent for peer ompeer sharing of information on 4<sup>th</sup> international Conference held in Kibabii University in June 2019  
N. Sikombe, **SM. Mbuguah** , M. Micheni
- viii. Presented a paper on Framework for evaluating the effectiveness of intergrated financial management system in Kenya Public Hospitals on 4<sup>th</sup> international Conference held in Kibabii University in June 2019.  
M Afwande, **SMbuguah**, J.Kilwake
- ix. Presented a paper Mobile applications energy efficient programmingpractices and energy profiling tools at **2<sup>nd</sup> JOOST international Conference 2019**  
M Adeline, **M Samuel**, W Franklin

### **University level Books**

- i. Co –authored a book Green ICT Implementation Developing Nation published by Lambert ISBN 978-3-639-66773-8 -2014. F.Wabwoba, **S,Mbuguah**
- ii. Co –authored a book Attackability Metrics Model for Secure Service oriented Architecture published by Lambert ISBN 978-3-659-66885-2-2014. **SM.Mbuguah** F.Wabwoba
- iii. Co-authored a book Computer Basic at your finger tips, published by Lambert ISBN 978-3-659-68624-5-2014. **SM.Mbuguah** F.Wabwoba
- iv. Co authored a Digital Electronic book published by Kibabii University press **ISBN:978-9968-59-051-0 (SM,Mbuguah** R,Rono, F.Wabwoba

### **Book Chapters**

- i. E-Voting Challenges for Kenya is a Chapter in Book Titled current trends in Social and Educational Development : a Multi-Discipline approach Published Kibabii in 2016 University ISSN 978-9966-59-006-0 **S.Mbuguah**, GM.Muketha S,Maragia
- ii. Implementation Evaluation for ERP softwares. A case Of Kibabii University is a chapter in book Titled Metrics and Models for Evaluating the Quality and effectiveness of ERP softwares Published by IGI global ISBN 9781522576785 S.Mbugua F.Wabwoba and C. Wanjala

### **Teaching Modules and others**

- i. Co-authored a module Computer application for E-learning -2019. **SM.Mbuguah**, F Wabwoba, & DA. Shisoka
- ii. Co-authored a module fundamentals of Computing for E-learning -2019 DA. Shisoka, F.Wabwoba & **SM, Mbuguah**

### **Others**

- i. Produced a report of USF sponsored Research finding on topic titled “ E-Voting as possible solution to the Kenyan Election debate”

- ii. A reviewer of the African journal of Information technology
- iii. A reviewer for politics and policy in the information age
- iv. Lead writing the ICT policy among other policies
- v. Lead in writing four ISO procedures for the department
- vi. Lead in developing the ICT strategic plan(2018 -2022)
- vii. Lead in Documentation of ISMS Quality policy, Assets, procedures and risk
- viii. Chair in writing the Communication Strategy Policy

## **Supervision of Post Graduate Students**

### **Supervised to Graduations**

(1)	Samuel Barasa PhD (KIBU)	-	Graduated in 2019
(2)	Vincent Mutochi PhD (KIBU)	-	Graduated in 2019
(3)	Patrick Owoche PhD (KIBU)	-	Graduated in 2019
(4)	Ronoh Richard PhD (KIBU)	-	Graduated in 2018
(5)	Nelson Masese PhD (KIBU)	-	Graduated in 2018
(6)	Bethwell Okello MSc (MMUST)	-	Graduated in 2016
(7)	ChrispusWanjala MSc (MMUST)	-	Graduated in 2016
(8)	Perez Nelima MSc (MMUST)	-	Graduated in 2017
(9)	Tobias Otibine MSc (KIBU)	-	Graduated in 2016
(10)	Sarah KapukhaMSc (KIBU)	-	Graduated.in 2018
(11)	Andrew Chekulesi MSc (KIBU)	-	Graduated.in 2018
(12)	Augustine Ngome MSc (MMUST)	-	Graduated in 2018
(13)	Edward WakoliMSc(KIBU)	-	Graduated in 2018
(14)	Victor Kadima MSc(MMUST)	-	Graduated in 2018
(15)	PrestoneWafula MSc(KIBU)	-	Graduated in 2019
(16)	Margaret Afwande MSc(KIBU)	-	Graduated in 2019
(17)	Sarah Wanja MSc (MMUST)	-	Graduated in 2015
(18)	Peter SoitaMSc (MMUST)	-	Graduated in 2015

### **Student whose supervision is in progress**

(1)	Adeline Mukanda	MSc(KIBU) Proposal development
(2)	Halliet Tsinale	PhD(KIBU) Proposal development
(3)	Newton Sikobe	MSc(KIBU) Carrying out the research
(4)	Richard Nyakundi	PhD(KIBU) Proposal development
(5)	Joshua Okemwa Nyang'au	PhD(KIBU) Proposal development
(6)	Dennis Gichuki	PhD(KIBU) Proposal development

### **Thesis Examined**

(1)	Yonah Etene	PhD KIBU
(2)	Samson Munialo	PhD MMUST
(3)	John Ndia	PhD MMUST
(4)	Peter Anselmo	PhD MMUST



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|---------------------|-----------|
| (5) Muthoni Mugeni  | PhD MMUST |
| (6) James Abila     | PhD KIBU  |
| (7) Nicholas Kiget  | PhD KIBU  |
| (8) Ratemo Cyprian  | PhD KIBU  |
| (9) Daniel Otanga   | PhD KIBU  |
| (10) Alice Nambiro  | PhD KIBU  |
| (10) Mary Mwakombo  | PhD MMUST |
| (11) Stanley Mwangi | PhD MKU   |
| (12) Matovu Davis   | PhD MMUST |

I have assessed more than Twelve MSC thesis among them are for following students;

- |                               |       |
|-------------------------------|-------|
| (1) Stephen Ngunge Gitonga    | MMUST |
| (2) Hussein Shirandula        | MMUST |
| (3) Ndukuyu Arnold            | KIBU  |
| (4) Dorcas Gicuku Mwigerereri | MMUST |
| (5) Rono K Hillary            | MMUST |
| (6) Samuel Khayo              | MMUST |
| (7) Harriet Thsanale          | KIBU  |
| (8) Gichuki Dennis            | KIBU  |
| (9) Asenahabi Bostley         | KIBU  |
| (10) Lilian Rono              | MMUST |
| (11) Batoya Isaac             | KIBU  |
| (12) Okwemba Rose             | KIBU  |
| (13) Wafula John              | KIBU  |

### **Funding**

- Deputy Project leader for Kibabii University Team that won KSh 64.6 Million for ICT infrastructure in 2018
- Won NACOSTI funding during PHD research worthy KSH 500, 000 in 2012
- Won KSh 200,000 from MMUST research fund 2010
- My students have also won NRF funding under my Guidance
- Rose Kapukha MSc student a supervising won Ksh 120, 000 From NACOSTI
- Samuel Barasa a PhD student I am supervising won KSh 600,000 from NACOSTI
- Patrick Owoche a PhD student I am supervision won KSh 500,000 from NRF

## Community Service,

- Donated story books and Gave Motivation speech to Laboot Primary School Mount Elgon
- Donated Text books to Kiroboni Girls High School
- Donated Text books to Njoro Boys High School
- Donated story books to Mau summit Primary School
- A committee member for Mwiki Primary School
- Participates in Church Funding raising activities
- Been a treasurer for Langata Phase II Jirani Mwema Welfare Association
- Been Treasury Langata Phase II Rural Electrification Project
- Have Contributed financially to various Kibabii University activities
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## Consultancy

- External Examiner for Alupe University College
- External Examiner for Masinde Muliro University of Science and Technology
- External Examiner for Laikipia University
- Reviewer of Curriculum for Enterprise Computing for Mount Kenya University
- Reviewer of Curriculum for PhD in Information Technology of Technical University of Mombasa
- An assessor for candidates applying for Chartered Engineering status for the Engineering Council
- An Editorial Advisory board member for a book titled Metrics and models for evaluating the effectiveness of the quality and effectiveness of ERP Software published by IGI Global .
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**Date of Birth&Marital status**

10/10/1964 and Married with Children

## Referees

- (i) Prof. Geoffrey Muchiri Muketha Muranga University  
Mob No 0713108597, [gmuchiri@mut.ac.ke](mailto:gmuchiri@mut.ac.ke)
- (ii) Prof. Samuel Mungai Kariuki, Kenya Medical Research Institute  
Mob No. 0722232467. [skariuki@kemri.org](mailto:skariuki@kemri.org)
- (iii) Prof.Waweru Mwangi Jomo Kenyatta University of Science and Agriculture  
Mob No. 0720965541 ,waweru\_mwangi@icsit.jkuat.ac.ke



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