

## Academic Staff Profile

### Personal Profile

#### Personal Details

Name: **Shem Peter Mutua Muturi**  
Title/Qualification: **BSc. (JKUAT), MSc. (JKUAT), PhD (UoN-ongoing)**  
Department: **Biochemistry, Microbiology & Biotechnology**  
Designation/Position: **Tutorial Fellow/ Departmental Examinations' Coordinator**  
Email: [muturi.shem@ku.ac.ke](mailto:muturi.shem@ku.ac.ke); [smuturi@gmail.com](mailto:smuturi@gmail.com)  
Contact Address: **43844-00100 Nairobi-Kenya**

Area of Specialization:

- Medical Virology
- Immunology
- Medical Microbiology

Research Interests:

- Medical Virology
- Immunology-Vaccine Development
- Neglected Tropical Diseases
- Medical Bacteriology
- Medical Mycology
- Medical Mycobacteriology
- Medical Parasitology
- Drug & Diagnostics Development

Google Scholar: <https://scholar.google.com/citations?hl=en>

ORCID ID: <https://orcid.org/0000-0002-9050-4186>

LINKEDIn: <https://www.linkedin.com/in/shem-peter-muturi-4aa83324/>

Youtube Channel & Links:

<https://www.youtube.com/channel/UChu0CxzQnSNoA0IDcXN7hw/featured>

<https://www.youtube.com/user/DrCupidity/featured>

<https://youtu.be/UU0AFn7ne38>



#### Academic & Professional Qualifications

##### -2015-F PhD Medical Microbiology, University of Nairobi (UoN)

Dissertation: The Effect Of Maternal & Childhood Protozoa & Helminth Infections On Vaccine Induced Immune Responses To Poliovirus.

Mentors: Prof. Omu Anzala; Dr. Gerald Chege; Dr. Dufton Mwaengo; Dr. Thomas Kariuki

##### -2007 –2009 MSc. Medical Virology, Institute of Tropical and infectious Diseases, Jomo Kenyatta University of Agriculture and Technology, Nairobi-Kenya

Dissertation: Molecular characterization of RANTES gene polymorphisms in HIV positive and HIV negative persons in Nairobi province.

Mentors: Dr. Samoel Khamadi; Prof. Helen Kutima.

-2003 – 2007 **BSc. Medical Microbiology, 2nd Class Honors; Upper Division, Department of Medical microbiology, Jomo Kenyatta University of Agriculture and Technology, Nairobi-Kenya.** Project Mentors: Prof. Paul Okemo; Prof. Helen Kutima

-1999 – 2002 **KCSE Certificate, Nkubu High School.**

-1996-1998 **KCPE Certificate, Ntharene Primary School**

**Others:**

- Certificate in HIV/AIDS management-KPEN-NACC
- Trainer of Trainers (Community-based First Aid)-Red Cross Society
- International Life Saver- St. John Ambulance
- Trainer of Trainers-Early Infant Diagnosis Curriculum and PMTCT program-APHIA II
- Trainer -Early Infant Diagnosis Curriculum and PMTCT program-Pathfinder International.
- Certificate in Good Clinical Laboratory Practice (GCLP)-ReMox CLINICAL TRIAL.
- Certificate of Training in Proposal and scientific writing.
- Certificate of Training in Scientific Writing and Communication-TCC.
- Certificate in Advanced Immunology-IUIS/AAI Course

**Employment History**

- May 2015-Date **Tutorial Fellow, Department of Biochemistry, Microbiology & Biotechnology, Kenyatta University, Nairobi-Kenya** Duties: Lecturing in Principles of Immunology, Clinical Bacteriology I & II, Introduction to Virology, Biochemistry of Microorganisms and Applied Microbial Biochemistry, Departmental E-Learning coordinator, Examinational duties including Chief invigilator (taught units), Assistant **Departmental Examinations Coordinator**, Internal examination of students' projects and Cross-checking of various units.
- September 2009-Dec 2014 **Research Scientist, Institute of Primate Research (IPR).** Duties: Development of proposals and project management for Impairment of vaccination responses to HIV, select childhood infections and malaria. Implementation of several protocols in Medical Microbiology/Immunology in various techniques; Parasite and Viral isolations. Molecular Biology techniques, Cell Culture techniques, Monitoring and Evaluation. Training and supervision of laboratory technologists/technicians, students on industrial attachments and other scientists.
- September 2013- Dec 2015 **Lecturer Department of Biochemistry & Biotechnology, K.U., Nairobi-Kenya** Duties: Biochemistry of Microorganisms & Applied Microbial Biochemistry Part time Lecturer, Undergraduate Students (BSc. Biochemistry & Biotechnology; Molecular Cell & Biology)
- September 2011- Date **Lecturer Department of Applied Sciences, Karen Campus, JKUAT, Nairobi-Kenya.** Duties: **Medical Bacteriology; Medical Techniques** Lecturer, Undergraduate Students (BSc. Medical Microbiology)
- January 2013- May 2013 **Lecturer Department of Plant & Microbial Sciences, K.U., Nairobi-Kenya** Duties: Introduction to Virology & Diagnostic Virology Part time Lecturer, Undergraduate Students (BSc. Microbiology)
- May 2011- August 2011 **Lecturer Department of Applied Sciences, Karen Campus, JKUAT, Nairobi-Kenya.** Duties: Virology Lecturer, Undergraduate Students (BSc. Medical Microbiology)

- January 2010- May 2010**      **Lecturer Department of Biological Sciences, Chepkoilel Campus, Moi University, Eldoret-Kenya.** Duties: Virology Lecturer, Postgraduate Students (MSc. Microbiology)
- January 2007- August 2009**      **Research Scientist Consultant, REMox TB Clinical trial, Kenya Medical Research Institute (KEMRI), Kenya.** Duties: Advisor on the clinical trial on the Rapid Evaluation of Moxifloxacin (REMox). Implementation of protocol and recruitment of patients.
- April 2008-August 2009**      **Research Officer, Center for Virus Research (CVR), Kenya Medical Research Institute (KEMRI), Kenya.** Duties: Research Scientist-HIV Laboratory; Implementation of techniques like Polymerase Chain Reaction (PCR), Restriction Fragment Length Polymorphisms (RFLP), Early Infant Diagnosis Project, HIV/AIDS Rapid Test Kits Survey (Kenya), Immunological Techniques, Tutoring Postgraduate Students.
- March-April, 2008**      **Research Officer, Center for Virus Research (CVR), Kenya Medical Research Institute (KEMRI), Kenya.** Duties: Research scientist-Measles, Polio, Hepatitis, Viral Haemorrhagic Fevers & Arboviruses laboratories. Viral isolations: preparation of cell cultures and isolation of Arboviruses, PCR, ELISA for Measles, Rubella virus, Poliovirus isolation & sub typing.
- March-June, 2007**      **Assistant Research Officer, Center for Biotechnology Research and Development (CBRD), Kenya Medical Research Institute (KEMRI), Kenya.** Duties: Research intern- Malaria Laboratory, Experimental Animal House, Leishmaniasis, Schistosomiasis Laboratories. Parasite isolation and animal model experimentation, Antimalarial drug resistance patterns characterization, Laboratory Animal care.
- February-December 2006**      **Research Assistant, Department of Biological Sciences, Kenyatta University (KU), Kenya.** Duties: Research Assistant to Mr. Dominic Kiogora who was undertaking a MSc. Medical Microbiology on the farming of Soya beans in Kenya (February 2006).

#### Achievements

- Televised Medical Virology Presentation & Debate- <https://youtu.be/UU0AFn7ne38>
- Immunopaedia Ambassador-2019-Date- <https://www.immunopaedia.org.za/>

#### Publications

#### Referred Journals

- Mwapagha L. M., Ng'ang'a ZW, **Mutui S. P. M.**, Miheso B. B., Khamadi S. A. (2017) Genetic Polymorphisms of the CX3CR1 Gene Associated with HIV-1 Infections in Kenyan Population. *Journal of AIDS & Clinical Research* 8:712. doi:10.4172/2155- 6113.1000712
- Mutui S. P. M.**, Kutima H.L., Mwapagha L.M., Munyao J. K., Kebira A. N., Irene Wanjiru, and Khamadi S.A. (2016) RANTES gene polymorphisms (403G>A and 28C>C) associated with HIV-1 infections in Kenyan population. *Disease Markers* Volume 2016 (2016), Article ID 4703854. <http://dx.doi.org/10.1155/2016/4703854>
- Mutui S. P. M.**, Chege G., Mwaengo D., Ochola L., Elephas W. Munene, Maria Kiio, Peter G. Mwethera and Kariuki T.M. (2014) Serial in vivo Passage of CXCR4-Tropic Simian/Human Immunodeficiency Chimeric Virus (SHIV89.6P) in Papio Anubis; A Preclinical Disease Model *AIDS Research and Human Retroviruses*. October 2014: A183-A183.

## Books and Books Chapters

N/A

## Conference/Workshops/Seminar Papers

### Conference Papers

-**Mutui S. P. M.**, Chege G., Mwaengo D., Ochola L., and Kariuki T.M. (2013) Serial in Vivo Passage of CXCR4-Tropic Simian/Human Immunodeficiency Chimeric Virus (SHIV89.6P) in *Papio Anubis*; A Preclinical Disease Model. Presented at The "International Scientific Conference (ISC): hosted by Institute of Primate Research (IPR) & Kenya Agricultural Research Institute-Trypanosomiasis Research Centre(KARI-TRC) from 11-13 September 2013 in Nairobi, Kenya.

-**Mutui S. P. M.**, Chege G., Mwaengo D., Ochola L., and Kariuki T.M. (2011) Adaptation of Simian/Human Immunodeficiency Chimeric Virus (SHIV) containing the Envelope Gene of the Human Immunodeficiency Virus Type 1, 89.6 (SHIV89.6P) in *Papio anubis* model by in vivo serial passage. Presented and published at The "Global Infectious Disease Research: a multidisciplinary approach" Course by the International Centre for Genetic Engineering and Biotechnology (ICGEB) from 04-10 September 2011 in Cape Town, South Africa.

-**Mutui S. P. M.**, Kutima H.L., Mwapagha L.M., and Khamadi S.A. (2010) Molecular Characterization of the RANTES gene polymorphisms in Nairobi province, Kenya. Presented and published at The AIDS Vaccine Conference 28TH September-1st October, 2010 in Atlanta-Georgia, USA. AIDS Research and Human Retroviruses 26: 10, P21.04.

-**Mutui S. P. M.**, Kutima H.L., Mwapagha L.M., and Khamadi S.A. Molecular Genetic Survey of the RANTES gene polymorphisms in Nairobi province, Kenya; Presented and published at inaugural Institute of tropical medicine and infectious diseases post graduate conference May 28-29th, 2009 at Jomo Kenyatta University of Agriculture and Technology

### Workshops Papers

-**Mutui S. P. M.**, Kutima H.L., and Okemo P. A. Antimicrobial Resistance Patterns in Enteric pathogens found the wetlands of L. Victoria Presented and published at, 3rd Scientific, Technological and Industrialization Conference October 25th-26th 2007, Jomo Kenyatta University of Agriculture and Technology

-Mwapagha L. M., Ng'ang'a Z., **Mutui S. P. M.**, Miheso B., and Khamadi S. Molecular Characterization of the CX3CR1 co-receptor gene among HIV infected adults and infants in Nairobi province, Kenya. Presented and published at inaugural Institute of tropical medicine and infectious diseases post graduate conference May 28-29th, 2009 at Jomo Kenyatta University of Agriculture and Technology

### Seminar Papers

-Mwapagha L.M., Ng'ang'a Z., **Mutui S. P. M.**, Miheso B., and Khamadi S. Characterization of polymorphisms of the CX3CR1 co-receptor gene among HIV infected adults and infants in Nairobi province, Kenya. Submitted and accepted at the second advanced summer school in Africa. Molecular Mechanisms of Viral Infection and Propagation conference 2010 Cape Town South Africa on March 6-14th, 2010

## Student Co-authored Publications

N/A

## Other Publications

- Mutui S. P. M. & Koki M. Awareness, Knowledge, Attitudes and Practices (AKAP) of Kibera Slum residents (Nairobi-Kenya) regarding condom use. Presented to and published by the Kenya People Empowerment Network (KPEN) and National AIDS Control Council (NACC) May 8th, 2008 for the award of the Certificate in HIV/AIDS Management.

## Research

- Bioscreening, Isolation And Characterization Of Anticancer And Antimicrobial Phytochemicals In Selected Plants From Mount Kenya And Elgon Regions Of Kenya
- The Effect Of Maternal & Childhood Protozoa & Helminth Infections On Vaccine Induced Immune Responses To Poliovirus.
- Serial in Vivo Passage of CXCR4-Tropic Simian/Human Immunodeficiency Chimeric Virus (SHIV89.6P) in Papio Anubis; A Preclinical Disease Model.
- Genetic Polymorphisms of the CX3CR1 Gene Associated with HIV-1 Infections in Kenyan Population.
- Molecular characterization of RANTES gene polymorphisms in HIV positive and HIV negative persons in Nairobi province.
- Awareness, Knowledge, Attitudes and Practices (AKAP) of Kibera Slum residents regarding condom use
- Antimicrobial Resistance Patterns in Enteric pathogens found the wetlands of L. Victoria.

## Funded Projects

- Bioscreening, Isolation And Characterization Of Anticancer And Antimicrobial Phytochemicals In Selected Plants From Mount Kenya And Elgon Regions Of Kenya-Vice Chancellor Grant, Kenyatta University (2021)
- The Effect Of Maternal & Childhood Protozoa & Helminth Infections On Vaccine Induced Immune Responses To Poliovirus-Consortium for National Health Research (CNHR)-(2015)
- Awareness, Knowledge, Attitudes and Practices (AKAP) of Kibera Slum residents regarding condom use-Kenya People Empowerment Network (KPEN) (2008)

## Conferenced/Workshops/Seminars Attended

### Conferences & Courses Attended

- **December 2014** EFIS-EJI Ceppellini Advanced School of Immunology course on Maternal Immunity 7<sup>TH</sup> to 11<sup>TH</sup> December, Castellammare di Stabia (Naples), Italy.
- October 2014** HIV-R4P Conference, Cape Town South Africa.
- October 2013** The EFIS-EJI Ceppellini Advanced School of Immunology course on Vaccination; Novel vaccination strategies against the three major killers-The latest news on Malaria, Tuberculosis, HIV/AIDS, and vaccine development in general 16th to 21st October, Castellammare di Stabia (Naples), Italy.
- October 2012** The ICGEB/IUBMB/IUIS course entitled “Non Communicable Disease Research: 15th to 19th October, Cape Town, South Africa.
- September 2011** The ICGEB/IUBMB/IUIS course entitled “Global Infectious Disease Research: a multidisciplinary approach”, 4th to 10th September, Cape Town, South Africa.
- 31<sup>st</sup>-5<sup>th</sup> August 2011** IUIS/AAI Advanced Immunology Course, University of Minnesota, Minneapolis.
- 9<sup>th</sup> to 13 August 2010** Effective Scientific Communication and Publishing Course by The Training Centre for Communication (TCC)-Africa, Chiromo Campus, University of Nairobi.

### **Workshops Attended**

- 6<sup>th</sup> to 9<sup>th</sup> April, 2010 Proposal and scientific writing workshop for NMK Researchers and Heritage Managers, Kenya Institute of Education, Nairobi.
- 26<sup>th</sup> June, 2009 Good Clinical and Laboratory Practice, Global Alliance for TB Drug Development, Olive Garden, Nairobi.
- 10<sup>th</sup> February, 2009 Roche Applied Science “Inspiring Discovery” workshop for Molecular and Cellular Sciences, KEMRI, Nairobi.
- 12<sup>th</sup> February, 2009 Roche “High Throughput Sequencing” workshop, BecA/ILRI, Nairobi.
- 2<sup>nd</sup> October, 2008 Roche Applied Science “Inspiring Discovery” workshop for Molecular and Cellular Sciences, University of Nairobi.

### **Seminars Attended**

N/A

### **Supervision of Postgraduate Students**

#### **Masters**

N/A

#### **Ph. D**

N/A

### **Professional/ Consultancy (Editor/ Peer review in journals, Networks/ Collaborations, External Examiner, Patents)**

- Consultant AKAP Study-Meru County Health Workers-2020
- Consultant, Clinton Foundation/KEMRI-Early Infant Diagnosis (HIV) Program-2007-2009
- Consultant, APHIA II/ NASCOP Study-2009

### **Community Service and Other Engagements**

- Board of Management (Member)- Igoki Boy High School, Meru-Kenya-2019-Current.
- Inventory and Logistics Manager-HIV Laboratory-(CVR-KEMRI)
- Student Leader (Sports & Entertainment Sec.)-Jomo Kenyatta Alternative Degree Students' Association (JKUADSA)
- Advisor-Jomo Kenyatta University Medical Microbiology Students Association (JKUMMSA)
- Founder Chairman HIV/AIDS Awareness Club-Nkubu High School (2001)
- School Prefect (Music)- Nkubu High School (2002)
- Chairman Wildlife club of Kenya ( Nkubu High School chapter-2002)
- Chairman Music club (Nkubu High School-2000-2002)
- Chairman Drama club (Nkubu High School 2001-2002)

### **Affiliation of Professional Bodies**

- 2013-F- Member Immunopaedia Organization
- 2011-F - Member International Union of Immunological Societies (IUIS)
- 2011-F- Member-Kenya Society of Immunology.
- 2006-F- Member-Kenya Society of Microbiology (KSM).
- 2006-F- Member-American Society of Microbiology (ASM).

### **National and International awards and Recognitions**

- Immunopaedia Ambassador-2019-Date- <https://www.immunopaedia.org.za/>

## **Administrative Positions Held**

### **Recognized university administrative positions**

- Departmental Examinations Coordinator, Department of Biochemistry, Microbiology & Biotechnology, Kenyatta University-2019-Current
- Departmental Examinations Coordinator, Department of Microbiology, Kenyatta University-2018
- Assistant Departmental Examinations Coordinator, Department of Microbiology, Kenyatta University-2015-2018

### Other administrative positions Held

- Departmental E-Learning Coordinator- Department of Microbiology, Kenyatta University-2015-2018
- Departmental Intellectual Property Rights Coordinator-Department of Microbiology, Kenyatta University-2015-2018

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