

## CURRICULUM VITAE - 2013

### PERSONAL DETAILS

**NAME** Prof **EDWARD K NGUU**  
Present Position: Associate Professor,  
Department of Biochemistry,  
University of Nairobi,  
Nationality: Kenyan.  
Birth date and place: 1961- Kirinyaga County, Kenya.  
Marital Status: Married.  
Languages: Fluent in English and Swahili.  
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University of Nairobi,  
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### EMPLOYMENT

March 2012 - present: **Associate Professor**, Biochemistry Department, University of Nairobi.

Nov 2002 – March 2012: **Senior Lecturer**, Biochemistry Department, University of Nairobi.

January 1998 – August 2002: **Lecturer**, Biochemistry Department, University of Nairobi.

April 1990-January 1998: **Graduate Assistant**, Biochemistry Department, University of Nairobi.

### Other Appointments

August 2009 - present: **Strategic Management Unit (SMU) Manager**, Students Welfare Authority, Kenyatta Medical School Hostels.

March 2 - May 8, 2009: **Acting Chairman**, Department of Biochemistry and on many other occasions on shorter durations.

April 2011: **Staff Commissioner, SONU 2011 Elections** - Representing College of

Health Sciences.

## **OTHER DEPARTMENTAL DUTIES**

**Course Coordinator:** Level I Bachelor of Medicine and Bachelor of Surgery (MBChB), Bachelor of Pharmacy (BPharm) and Bachelor of Dental Sciences (BDS).

**Member:** **School of Medicine Admissions Committee**, College of Health Science, University of Nairobi.

**Departmental representative:** Nairobi International Show College of Biological and Physical Science Committee.

## **ACADEMIC BACKGROUND**

**1997: Ph.D** (Biochemistry, by research and Thesis) under the African Regional Postgraduate Programme in Insect Science (ARPPIS) Scholarship. Registered at University of Nairobi, Kenya.

**1992: Master of Science** (Biochemistry, by coursework and thesis), University of Nairobi, Kenya.

**1986: Bachelor of Science** (Biochemistry and Chemistry), University of Nairobi, Kenya. Obtained B.Sc., 2<sup>nd</sup> Class Honours (Upper Division).

**1981: Kenya Advanced Certificate of Education (KACE)** (reading Mathematics, Physics and Chemistry), Kirangari High School, Kenya. Obtained principal passes in all subjects and a credit in General Paper.

**1979: East African Certificate of Education (EACE)**, Kerugoya Secondary School, Kenya. Obtained distinction in Physical Sciences and Mathematics; 5 credits (Biology, Geography, Agriculture, History, & English Literature) and a pass in English language.

**1975:** Kiamaina Primary School, Kirinyaga County. Qualified for Secondary School admission, 1976.

## **RESEARCH TRAINING EXPERIENCE**

**1998-2000: Postdoctoral Research Fellow**, National Institute of Sericulture and Entomological Sciences, Tsukuba, Japan.

My research project was entitled "Construction of a cDNA linkage Map in the Silkworm, *Bombyx mori*, based on Restriction Fragment Length Polymorphism Analysis".

**1992-1997: PhD Research Scholar** in Biochemistry under the African Regional Postgraduate Programme in Insect Science (ARPPIS) Scholarship.

My research project is entitled "The Influence of Bloodmeal and its Digestive Products on Bloodstream Trypanosome Differentiation in the Tsetse Fly, *Glossina morsitans*, Westwood".

**1987-1990: MSc. Scholar** in Biochemistry (by coursework and thesis), University of Nairobi, Kenya. My research project was on "Purification and Properties of the Low Molecular Weight Protein from Haemolymph of Tsetse Fly, *Glossina morsitans morsitans*".

## **NON DEGREE TRAINING**

**October 2010 - April 2011:** Leadership Development Program under the Management Sciences for Health (MSH) program

**January 3-7, 2011:** Trainers Workshop on Medical Education, University of Nairobi, College of Health Sciences

**September 5-6, 2005:** Techniques in molecular Biology: Proteins and Proteomics workshop, University of Hertfordshire, U.K.

**September 7-9, 2005:** Techniques in molecular Biology: Nucleic Acids and Genomics workshop, University of Hertfordshire, U.K.

**June-August 1996:** Two-month training on **Biology of Parasitism: Modern Approaches** at the Marine Biological Laboratory, Woods Hole, Massachusetts, U.S.A.

**April 1996:** Two-week international workshop on **Use of Gene Cloning in Biotechnology**. Sponsored by the Foundation of African Development through International Biotechnology (FADIB) (University of Nigeria, Enugu, Nigeria).

**March-September 1992:** Six-month course on **Insect Science**. This course was a prerequisite to joining ARPPIS Ph.D programme. Topics covered: Insect biochemistry, physiology and behavior; Insect functional morphology; Biostatistics; Insect taxonomy; Insect biocontrol; Insect ecology.

**November 1988:** Two-week course on **Practical Application of DNA Techniques in Microbiology**, funded by the **NORAD KEN 046 Project**, at Kabete, Kenya.

**Computer Knowledge:** Competent in application of a wide range of computer packages.

### **SCHOLARSHIPS AWARDED**

**September 5-9, 2005:** British Council sponsorship to attend a 11/2 week course on “Techniques in Molecular Biology” University of Hertfordshire, U.K.

**October 1998-September 2000:** Science and Technology Agency (STA) Fellowship to undertake postdoctoral research in Japan for 2 years.

**June-August 1996:** Borough Welcome Fund Fellowship to attend a two-month course on Modern Approaches in Biology of Parasitism at Woods Hole, Massachusetts, U.S.A.

**March 1992-1995:** German Academic Exchange Services (DAAD) fellowship through the African Regional Postgraduate Programme in Insect Science (ARPPIS) for PhD programme.

**November 1987-December 1989:** University of Nairobi Scholarship for M.Sc. program.

**October 1983-June 1986:** Government of Kenya Scholarship through University of Nairobi for undergraduate degree programme.

### **CONFERENCES AND WORKSHOPS ATTENDED**

**October 9-13, 2011:** Vires Biennial Forum, Speke Commonwealth Resort, Munyonyo, Kampala, Uganda

**July 25, 2011:** Science and Risk Communication Training by ISAAA Africenter and PBS, Nairobi, Kenya.

**March 14, 2011:** Kenya National Workshop on RABESA/COMESA Regional Biosafety Policies and Guidelines

**August 29 - September 1, 2010:** Presented a paper entitled “Effects of Pollution on Omega-3 Polyunsaturated Fatty Acids (Pufas) In Commercial Fish Species in Lake Victoria” VicRes Pollution And Heavy Metals Cluster

Workshop, Jinja, Uganda.

**April 2<sup>nd</sup> - 4<sup>th</sup> 2009:** Presented a paper entitled "**Effects of heavy metal pollution on microalgae richness and diversity in Lake Victoria**" VicRes Pollution and Heavy Metal Cluster Workshop, Bujumbura, Burundi.

**September 2008:** Participated in organizing the 5<sup>th</sup> African Association of Physiological Sciences (AAPS) Congress in Chiromo Campus, University of Nairobi.

**September 2005:** Presented a paper entitled "**cDNA Linkage Map Construction in the Silkworm, *Bombyx mori*, by RFLP Analysis**" at the 7<sup>th</sup> Biochemical Society of Kenya Symposium at ICIPE HQs, Nairobi, Kenya.

**April 2000:** Presented a paper entitled "**The Construction of a cDNA Linkage Map in the Silkworm, *Bombyx mori*, based on Restriction Fragment Length Polymorphism Analysis**" at the 69<sup>th</sup> Meeting of Japan Sericultural Society in Tokyo University, Tokyo, Japan.

## TEACHING EXPERIENCE

### i. Undergraduate lectures to:

- MBChB, BPharm. & BDS students.
- Bachelor of Veterinary Medicine students.
- Bachelor of Biochemistry students.
- BSc Agriculture students.
- Final year BSc projects supervision.

### ii. Postgraduate lectures to:

- Master of Science in Biochemistry students.
- Master of Science in Crop Production students.

## TRAINING WORKSHOPS CONDUCTED

**August 2009 – to date:** Annual course on "**Molecular and Biochemical Laboratory Techniques**", under Clinical and Industrial Biochemistry Consultancy Unit (CIBCU), Department of Biochemistry University of Nairobi. Also in collaboration with School of Biological Sciences organised many 2weeks courses on Molecular Biology and Biotechnology for those who want to upgrade their skills.

**Dec 13-4, 2011 at Lukenya Getaway, Athi River, Nairobi:** Water Efficient Maize for

Africa (WEMA) Training Workshop for Journalists

**March 23-24, 2011, International Livestock Research Institute (ILRI), Nairobi:** Workshop on draft “Biosafety Regulations for Genetically Modified Organisms” for ILRI staff conducting Plant transformations.

**August 7-9, 2010, Ostrich Farm, Nairobi:** Workshop to deliberate on draft “Guidance document on the environmental risk assessment for environmental release of genetically modified organisms” for National Environment Management Authority (NEMA).

**2<sup>nd</sup> – 6<sup>th</sup> November 2009, Methodist Guest House, Nairobi:** Capacity Building for Media Educators on Reporting Agricultural Biotechnology and Biofuels in East Africa - organised by ISAAA Africenter and School of Journalism & Mass Communication - University of Nairobi,

**February 2009, AICAD, JKUAT, Juja, Nairobi:** Capacity Building for Senior Ministry of Agriculture (MoA) Officials on Agricultural Biotechnology -organised by ISAAA and MoA.

**August 18-19<sup>th</sup>, 2008, Kenyatta University:** Mentorship Program for Strengthening the Teaching of Agricultural Biotechnology by Science Teachers - sponsored by Monsanto, ISAAA and Kenyatta University.

**July 19<sup>th</sup> – 22<sup>nd</sup>, 2004, Lukenya Academy, Machakos:** Kenya Teachers Agribiotech Workshop- sponsored by Tuskegee University and ABSF.

## **SOCIETY MEMBERSHIP**

- **Member**, Open Forum on Agricultural Biotechnology in Africa (OFAB), Kenya Chapter.
- **Member of the Organizing Committee**, Fifth International Congress of the African Association of Physiological Sciences (AAPS) held from 27<sup>th</sup> July –1<sup>st</sup> August 2008, Chiromo Campus, University of Nairobi, Kenya.
- **Founder Member**, Biochemical Society of Kenya
- **Member**, Physiological Society of Kenya.
- **Member**, African Association of Insect Scientists (**AAIS**)
- **Member**, African Biotechnology Stakeholders Forum (**ABSF**)
- **Founder Member**, Bionet-Africa
- **Founder Member**, Federation of African Societies of Biochemistry and Molecular Biology (FASBMB).
- **Vice-Treasurer**, Biochemical Society of Kenya (from 1997-1998)
- **Vice Treasurer**, Physiological Society of Kenya.

- **Member of the Organizing Committee**, First Pan-African Conference on Biochemistry and Molecular Biology held from 1<sup>st</sup> –6<sup>th</sup> September 1996 at UNEP Headquarters, Nairobi, Kenya.

## **PUBLICATIONS**

### **(a) Thesis**

- (i) **Nguu, E. K. (1997)**. "The Influence of Bloodmeal and its Digestive Products on Bloodstream Trypanosome Differentiation in the Tsetse Fly, *Glossina morsitans*, Westwood". PhD, University of Nairobi
- (ii) **Nguu, E. K. (1992)**. "Purification and Properties of the Low Molecular Weight Protein from Haemolymph of Tsetse Fly, *Glossina morsitans morsitans*". MSc, University of Nairobi

### **(b) Research Papers in Peer Reviewed Journals**

- Ogoyi, D. O., Mwita, C. J., Nguu, E. K. and Shiundu, P. M. (2011)**. Determination of heavy metal content in water, sediment and microalgae from Lake Victoria, East Africa. *The Open Environmental Engineering Journal*. 4, 156-161.
- Njagi, J. W., Ngure, R. M., Nguu, E.K., Essuman, S. and Ogoyi D. O. (2011)**. Induced protein profiles in haemolymph of desert locust *Scistocerca gregaria* following *Trypanosoma brucei* challenge. *Egyptian Journal of Biochemistry and Molecular Biology*. 29(1), 1-16.
- Opondo, S. O., Ngure, R. M., Nguu, E.K., and Ogoyi D. O. (2010)** Molecular characterization of *Bacillus thuringiensis* strains with differential toxicity to the spotted stalk borer *Chilo partellus*. *Journal of Applied Biosciences*. 31, 1878-1886.
- Kinyua, J. K., Nguu, E.K., Mulaa, F. J. and Ndung'u, J. M. (2005)**. Immunization of rabbits with *Glossina pallidipes* tsetse fly midgut proteins: Effects on the fly and trypanosome transmission. *Vaccine*. 23. 3824-3828.
- Nguu, E. K., Kadono-Okuda, K., Mase, K., Kosegawa, E., and Hara, W. (2005)**. Molecular linkage map for the silkworm, *Bombyx mori*, based on restriction fragment length polymorphism of cDNA clones. *J. Insect Biotechnology & Sericology*. 74, 5-13.
- Ogoyi, D. O., Achieng, D., Nguu, E.K. and Ochanda, J. O. (2003)**. Partial characterization of trypanolysin factor from the midgut of *Scistocerca gregaria*. *East African Medical Journal*, 80(11) 575-580.

- Ogoyi, D. O., Kadono-Okuda, K., Eguchi, R., Furuta, Y., Hara, W., Nguu, E. K. and Nagayasu, K. (2003).** Linkage mapping and analysis of a non-susceptibility gene to densovirus (nsd-2) in the silkworm, *Bombyx mori*. *Insect Mol. Biol.* 12, 117-124.
- Kinyua, J. K., Osir, E.O., Ogoyi, D. O. and Nguu, E. K. (2002).** Characterization of protective antigens from midguts of the tick, *Amblyomma variegatum*. *Experimental and Applied Acarology.* 26, 101-113.
- Nguu, E.K. and Osir, E.O. (2001).** Properties of a factor in eland plasma that inhibits transformation of bloodstream-form *Trypanosoma brucei*. *Insect Science and its Applications.* 21 (2), 169-177.
- Gunzl, A., Ullu, E., Dorner, M., Fragoso, S. P., Hoffmann, K. F., Milner, J. D., Morita, Y., Nguu, E. K., Vanacova, S., Wunsch, S., Dare, A. O., Kwon, H. and Tschudi, C. (1997).** Transcription of the *Trypanosoma brucei* spliced leader RNA gene is dependent only on the presence of upstream regulatory elements. *Mol. Biochem. Parasitol.* 85, 67-76.
- Nguu, E.K., Osir, E.O., Imbuga, M. O. and Olembo, N.K. (1996).** The effect of host blood in the *in vitro* transformation of bloodstream trypanosomes by homogenates of tsetse midgut. *Med. Vet. Entomol.* 10, 317-322.
- Olembo, N.K., Nguu, E.K. Ochanda, J.O. and Ochieng, V. O. (1994).** Inhibition of bloodmeal digestion in *Glossina morsitans* fed on rabbits immunized with tsetse midgut homogenate. *East African Medical Journal,* 71: 651-655.
- Ochanda, J.O., Osir, E.O., Nguu, E. K. and Olembo, N. K. (1992).** Isolation and properties of 600-kDa and 23-kDa haemolymph proteins from the tsetse fly, *Glossina morsitans*: their possible role as biological insecticides. *Scandinavian Journal of Immunology,* 36 (Suppl. 11): 41-47.
- Nguu, E.K., Ochanda, J.O., Osir, E.O. and Olembo, N. K. (1992).** Isolation and properties of a 23 kD haemolymph protein from the tsetse fly, *Glossina morsitans*. *Insect Science and its Applications,* 189-198.
- Ochanda, J.O., Osir, E.O., Nguu, E. K. and Olembo, N. K. (1991).** Lipophorin from the tsetse fly, *Glossina morsitans morsitans*. *Comp. Biochem. Physiol,* 99B, 811-814.

#### **Publication in Proceedings**



## Full Paper

**Ogoyi, D. O., Mwita, C. J., Nguu, E. K., Wasonga, C. O. and Shiundu, P. M. (2009)** Effects of heavy metal pollution on microalgae richness and diversity in Lake Victoria. *Lake Victoria Research Initiative Proceedings, VicRes Pollution and Heavy Metal Cluster Workshop 2<sup>nd</sup> – 4<sup>th</sup> April, 2009*, pp193-210.

## Abstracts

**Evans Nyaboga, Huahong Wang, Leena Tripathi, Edward Nguu, Wilhelm Gruissem, Herv'e Vanderschuren (2010).** Analysis of Cassava (*Manihot esculenta* Crantz) Stress-inducible Promoters and Modulation of Antioxidant Expression in Cassava Storage Roots. "World Food System - A Contribution from Europe", Tropentag, September 14-16, 2010, Zurich.

## POSTGRADUATE SUPERVISION

### (a) PhD

**Kinyua, J. K. (2001 - 2007):** Characterization of *Glossina pallidipes* midgut molecules as vaccine candidates for human African trypanosomiasis (HAT)". – **University of Nairobi**

**Korir, E. K (2011 - Present).** Development of a potential anti-trypanosome vaccine based on attenuated *Trypanosoma evansi* parasite - **University of Nairobi**

**Nyaboga, E. N. (2009 - Present):** Functional characterization of cassava (*Manihot esculenta*, Crantz) post harvest physiological deterioration (PPD)-inducible promoters and modulation of antioxidant expression in cassava storage roots – **University of Nairobi**

**Muinamia, K. M. (2007 - Present):** Isolation of *Schistosoma mansoni* tegumental microtubule proteins and determination of their potential as vaccine candidates - **University of Nairobi.**

**Lucy W. Kariuki (2005 - Present):** Effects of Maesanin on Glucose and Proline Metabolism in Procyclic and Bloodstream form *Trypanosoma brucei brucei* - **University of Nairobi.**

**Carolyne O. Wasonga (2008 - present):** Effects of heavy metals on Omega-3 polyunsaturated fatty acids (PUFA) in commercial fish in Lake Victoria - **University of**

## **Nairobi.**

### **(b) MSc**

- 1. Wakisa Kipandula (2010 - Present):** Antioxidant activities in extracts from indigenous vegetables from Kenya and Malawi.
- 2. Muinde, V. M (2008 - Present):** Investigating the factors affecting levels of Omega-3 polyunsaturated fatty acids (PUFAs) in commercial fish species in Lake Victoria - **University of Nairobi.**
- 3. Korir, E. K. (2007-2010):** Relationship between assembly behavior and molecular responses in foveal gland of unfed and fed adult *Rhipicephalus appendiculatus* - **Egerton University**
- 4. Dorothy A. Opondo (2006 - 2010):** Comparison of proteins of parasite stages *Schistosoma mansoni* and those of the tissues of the snail vector *Biomphalaria pfeifferi* - **University of Nairobi.**
- 5. John M. Gitau (2007 - 2009):** Isolation and characterization of trypanosome-lysing factor from the desert locust *Schistocerca gregaria*. **Egerton University**
- 6. Juliet W. Njagi (2007 - 2008).** Induced protein profiles in the haemolymph of desert locust, *Schistocerca gregaria*, following Trypanosomatid, *Trypanosoma brucei brucei* challenge - **Egerton University**
- 7. Kinyua, J. K. (1998 - 2000):** Biochemical and Immunological Identification and Characterization of Protective Antigens from the gut of the Tick, *Ablyomma variegatum*- **University of Nairobi.**

### **(c) Undergraduate**

Supervised over twenty five (25) BSc Biochemistry final year projects since year 2005.

### **EXTERNAL EXAMINER APPOINTMENTS AND OTHER ASSIGNMENTS**

- (i) 2004 - Present:** Appointed External Examiner, Department of Biochemistry, Jomo Kenyatta University of Agriculture and Technology, Juja, Kenya
- (ii) 2007 - Present:** Appointed External Examiner in Biochemistry, Karen Campus, Jomo Kenyatta University of Agriculture and Technology, Juja, Kenya

- (iii) **2009 - Present:** Appointed External Examiner for Bachelor of Pharmacy, School of Pharmacy, MT Kenya University, Kenya.
- (iv) **2009 - Present: Associate Member,** International Services for Acquisition of Agri-Biotech Applications (**ISAAA**).
- (v) **February 2010:** Participated in the European Commission funded, FP7 proposal evaluations in Brussels.
- (vi) **November 2008:** Participated in the European Commission, FP7 proposal evaluations in Brussels.

### **THESIS RECENTLY EXAMINED**

- I have sat in many postgraduate Examination Boards in the School of Medicine, School of Biological Sciences and School of Physical Sciences, University of Nairobi.
- I have also served as External/Internal examiner for the thesis listed below:-

#### **PhD (from 2008)**

1. **(2012) Jim Mwaniki Kagai (Kenyatta University):** Molecular Epidemiology of *Wuchereria bancrofti* infection in Tana Delta, Kenya
2. **(2010) Robert Muhia Karanja (JKUAT):** Role of Salivary Gland Excretions in *Anopheles* Mosquito Midgut and Plasmodium Development.
3. **(2009) Gerald Juma (JKUAT):** Basis of Host Plant Recognition and Acceptance by *Busseola fusca* (Fuller) (Lepidoptera: Nuctuidae) Larvae.
4. **(2008) Marion Warigia Burugu (Kenyatta University):** Genetic differentiation, vector competence to dengue 2 viruses and host preference of *Aedes aegypti* populations from coast and inland parts of Kenya.

#### **MSc (from 2010)**

1. **(2011) David W Nderu (Kenyatta University):** Clinical Evaluation of Fluorescent *In-Situ* Hybridization (FISH<sup>®</sup>) Assay for Malaria Diagnosis.
2. **(2011) Grace A Muna (Kenyatta University):** Antioxidant Properties of Cultivated Edible Mushrooms in Kenya

3. **(2011) Elisha Muchunga Mugo (Kenyatta University):** Analysis of Deletion of Function of a Midgut Proteolytic Gene in Tsetse fly (*Glossina pallidipes*) by RNA Interference
4. **(2011) James G. Kabii (Kenyatta University):** Molecular Phylogenetic characterization of symbiotic microbiota in the intestinal tracts of wild lepidopteran stem borer *Eldana saccharina* Walker (Pyralidae)
5. **(2011) Bernard Kipkurui Rotich (University of Nairobi):** Lipids from Autotrophically Grown *Chlamydomonas reinhardtii* and Their Potential for Use in Bio-diesel Production
6. **(2011) Abraham Mmayoke (Egerton University):** Polymorphism of Attacin D gene in populations of *Glossina pallidipes* tsetse fly in Nguruman and Busia-Teso, Kenya ,
7. **(2011) Kavunga Membo Hugo (Egerton University):** Molecular Characterisation and Pathogenicity of Drug Resistant and Sensitive *Trypanosoma brucei rhodesiense* Strains from Uganda.
8. **(2010) Mukundi David Ndungú (University of Nairobi):** Distribution and Diversity of *Pythium Spp.* in indigenous forests and adjacent farmlands in Taita and Embu Districts in Kenya
9. **(2010) Vincent Onyango Okoth (JKUAT):** Seroprevalence of Rift Valley fever among febrile patients at selected health facilities in Trans Nzoia District Kenya.
10. **(2010) Eric Kipng'etich Korir (Egerton University):** Relationship between assembly behavior and molecular responses in foveal gland of unfed and fed adult *Rhipicepharus appendiculatus*.

## CURRENT RESEARCH INTEREST

1. **Vector-parasite interactions:** Molecular characterization of the factors responsible for parasite development of in their arthropod vectors with special emphasis to tsetse-trypanosome interaction. The goal is to identify targets for disrupting disease transmission cycle.
2. Effect of Pollution on Omega-3 Polyunsaturated Fatty Acids (PUFA) in Commercial Fish Species in Lake Victoria.
3. **On collaboration basis:** Use of *Bacillus thuringiensis* as a biopestice. Molecular interaction of delta-endotoxin with (Lepidopteran) insect gut.

## RESEARCH GRANTS SECURED

1. Ogoyi, D.O., Nguu, E.K., Shiundu, P. and Mwitwa Chacha, M.O. (2007). Investigating the Effects of Pollution on Omega-3 Polyunsaturated Fatty Acids (PUFA) in Commercial Fish Species in Lake Victoria. Project Funded by VicRes (**US\$ 150,000** - for 3 years).
2. Infrastructural Building for Molecular Biology and Biotechnology Laboratory at the old ICIPE premises. A Joint Proposal by the Departments of Biochemistry, Botany and Zoology, College of Biological and Physical Sciences, University of Nairobi. Project Funded by Rockefeller Foundation (**US\$ 150,000**) - Year 2004
3. PhD research grants for Lucy W Kariuki: **US\$ 10,000** [From TDR] and Kshs 800,000 [From DAAD].

## REFEREES

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Associate Professor  
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**Tel: 0721353772**
3. **Prof Peter W Kinyanjui**  
Associate Professor & Chairman,  
Department of Biochemistry  
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**Tel: 0722394442**