

# CURRICULUM VITAE

**NAME:** Peter Wahinya Kinyanjui  
**DATE OF BIRTH:** July 1, 1953  
**PLACE OF BIRTH:** Kenya  
**CITIZENSHIP:** Kenyan  
**LANGUAGES:** English, Kiswahili and Kikuyu  
**MARITAL STATUS:** Married  
**CURRENT POSITION:** Chairman and Professor, Department of Biochemistry

## SUMMARY OF KEY COMPETENCIES AND ACHIEVEMENTS

1. 21 years teaching and research experience in Biochemistry and Molecular Biology.
2. Supervision of undergraduate (dissertations) and postgraduate (thesis) research projects for the last 21 years.
3. Revival and review of MSc Biochemistry programme in the department.
4. Integration of BSc Biochemistry Science and Medicine programmes in the department.
5. Review of BSc Biochemistry examination regulations to particularly eliminate resit examinations.
6. Revival of departmental income generating unit Clinical Industrial Biochemistry Consultancy Unit (CIBCU) which has developed
  - (a) An annual Molecular and Biochemical Laboratory Technique short Course (2 weeks) open to scholars within and outside University of Nairobi.
  - (b) A widal Kit for detection of typhoid.
7. Initiated starting of welfare society in the department which has enhanced bonding and team spirit among staff members in the department.

## **ACADEMIC TRAINING**

- Ph.D.:** 1984-1989 Biochemistry/Molecular Biology, York University, Toronto, Canada.  
Thesis Title: Thymidine kinase from *Tetrahymena thermophila*: Purification of the enzyme and preliminary attempts towards cloning of the gene.  
  
The project involved purification of thymidine kinase, preparation of antibodies against the enzyme and N-terminal sequencing. The antibody and a pool of two oligonucleotide probes were used to screen  $\lambda$  gt11 cDNA library for TK gene sequences.
- MSc.:** 1979-1981 Biochemistry, University of London.  
Thesis Title: Utilization of glucose by mammary gland cells.
- B.Sc.:** 1974-1977 Second Class Honors (Upper Division) Biochemistry/Entomology, University of Nairobi.
- 1972-1973 Kenya Certificate of Advanced Secondary Education at Kijabe High School.
- 1968-1971 Kenya Certificate of Secondary Education at Uthuru High School

## **WORK EXPERIENCE**

- 2006 to date: Chairman, Department of Biochemistry.  
Duties: General administration and coordination of teaching and examination of various degree courses that are taught in the Department of Biochemistry.
- 2012 to date Associate Professor of Biochemistry/Molecular Biology.
- 2002 -2012: Senior Lecturer: Duties: teaching undergraduate and postgraduate students and supervision of M.Sc. and Ph.D. students.
- 1990-2002: Lecturer: Duties: teaching undergraduate and postgraduate students and supervision of M.Sc. students.
- 1991-1993: Part-time lecturer, Department of Biochemistry, Egerton University.  
  
Duties: teaching undergraduate and postgraduate students.

1978-1990: Biochemical research on Trypanosomosis at the Kenya Trypanosomiasis Research Institute (Muguga) as;

1989-1990: Head of Biochemistry Division and Senior Research Officer.

1981-1984: Head of Biochemistry Division and Research Officer.

1978-1981: Assistant Research Officer.

1977-1978: Agricultural Entomologist (Research) at the National Agricultural Laboratories (Kabete).

1977: Laboratory Technician I.C.I.P.E.

### **RECOGNITION AND CERTIFICATE AWARDS**

2008 to date Peer Reviewer: Kenya Veterinarian Journal

2010 to date External Examiner: Department of Medical Biochemistry, School of Medicine, Moi University

April 2011 Certificate on Leadership Development: Management Sciences for Health (MHS) and College of Health Sciences UON Training Program.

July 2010 Commendation for good performance and support of Faculty of Veterinary Medicine, University of Nairobi.

January 2009 Certificate of participation in Performance Enhancement Strategies Course.

October 2009 Certificate of attendance, Roche Applied Science Workshop

August 2008 Certificate of participation, International Congress of the African Association of Physiological Sciences (AAPS).

September 2006 Certificate of recognition as member of Organizing Committee of 5<sup>th</sup> Biennial Scientific Conference and Exhibition.

## **PUBLICATIONS**

1. Wambui V., Kiptoo M, Kinyua J., Odera I., Muge E., Muiruri P., Lihana R., **Kinyanjui P.W.**, Songok E.M. (2012). Predicted HIV-1 coreceptor usage among Kenya patients shows a high tendency for subtype d to be cxcr4 tropic. *AIDS Research and Therapy* 9: 1-7.
2. Kanduma, E.G., Mwacharo J.M., Sunter J.D., Nzuki I, Mwaura S, **Kinyanjui P.W.**, Kibe M, Heyne H, Hanotte O, Skilton R.A, Bishop, R.P. (2012). Micro-and minisatellite-expressed sequence tag (EST) markers discriminate between populations of *Rhipicephalus appendiculatus*. *Ticks and Tick-borne Diseases* 3: 128-136.
3. Kamau, J.M., Vos A.J., Playford M., Barshir, S., **Kinyanjui P.W.** (2011). Emergence of new types of *Theileria orientalis* in Australian cattle and possible cause of theileriosis outbreaks. *Parasit Vectors* 4: 22-29
4. Kamau, J.M., Bashir, S., Naoki, Y., **Kinyanjui, P.W.**, Chihiro, S. (2011). Rapid discrimination and quantification of *Theileria orientalis* types using ribosomal DNA internal transcribed spacers. *Infect. Genet. Evol.* 2:407-414.
5. Bururia, J.M., **Kinyanjui, P.W.**, Waiyaki, P.G., Kariuki, S.M. and Karimi, P.N. (2008). Plasmid borne resistance in *Klebsiella* isolates from Kenyatta National Hospital, Nairobi, Kenya. *East and Central African Journal of Pharmaceutical Sciences* 11:33-38.
6. Kamau, J.M., **Kinyanjui, P.W.**, Mwai, O.A. and Iraqi, F.A. (2007). Trypanotolerance effects due to reciprocal crossing in an F2 mice population. *Kenya Veterinarian Journal*. 31: 68-71.
7. Kamau, J.M., **Kinyanjui, P.W.**, Mwai, O.A. and Iraqi, F.A. (2007). Fine mapping of trypanosomosis resistance loci in murine by halotype approach. *Kenya Veterinarian Journal*. 31: 64-67.
8. Kamau, J.M., **Kinyanjui, P.W.**, Mwai, O.A. and Iraqi, F.A. (2007). Halotypesharing for fine mapping Quantitative Trait Loci controlling trypanotolerance in mice. Submitted to *Journal of Mammalian Genome*.
9. Bururia, J.M., **Kinyanjui, P.W.**, Waiyaki, P.G. and Kariuki, S.M. (2007). Resistance of *Klebsiella* species isolates from two institutions in Nairobi, Kenya to commonly prescribed antimicrobial agents. *East and Central African Journal of Pharmaceutical Sciences*. 10: 22-26
10. Osanya, A., Majiwa, P.A.O. and **Kinyanjui, P.W.** (2006). RAPD analysis of genotypic groups of *Trypanosoma congolense* and other African Trypanosome Species. *Bull. Anim. Hlth. Prod. Afri.* 54: 11-16

11. Osanya, A., Majiwa, P.A.O. and **Kinyanjui, P.W.** (2006). Restriction fragment length polymorphism (RFLP) analysis of PCR products amplified from 18S ribosomal RNA gene of *Trypanosoma congolense*; Kenya Journal of Sciences. 13: 38 – 42.
12. Osanya, A., Majiwa, P.A.O. and **Kinyanjui, P.W.** (2006). Partial nucleotide sequence analysis of 18S ribosomal RNA gene of the four genotypes of *Trypanosoma congolense*; Kenya Journal of Sciences, 13:30 – 37.
13. Osanya, A., Majiwa, P.A.O., **Kinyanjui, P.W.** (2005). Use of restriction fragment length polymorphism of 18S rRNA gene for identification of trypanosome and other protozoan species. Kenya Veterinarian Journal 29: 119-125
14. Mosonic, N.C., Murphy, N.B., Pele, R. **Kinyanjui, P.W.** (2004). Differential expression of a DNA fragment obtained from *in vivo* and *in vitro* propagated parasites of *Trypanosoma congolense*. International Journal of Biochemiophysics 13:55-58
15. Apopa, P.L., Majiwa, P.A.O. and **Kinyanjui, P.W.** (2004). *Trypanosoma (Nannomonas) congolense*: Separation of chromosomes and identification of PCR product specific to medium size chromosome 2. Kenya Veterinarian Journal 27: 91-96.
16. Apopa, P.L., Majiwa, P.A.O. and **Kinyanjui, P.W.** (2004) Identification of DNA marker specific to medium size chromosome 4 of *Trypanosoma congolense*. E.A. Journal of Life Sciences. 5: 37-48.
17. **Kinyanjui, P.W.**, N.W. Njogu, J., Thuku and J.K. Omuse (1991). Trypanocidal activity present in serum from African baboon; Proceedings of 12<sup>th</sup> KEMRI-KETRI Conference.
18. **Kinyanjui, P.W.** and Pearlman, R.E. (1991). Thymidine kinase from *Tetrahymena thermophila*. Purification of the enzyme and immunological analysis; Eur J. Biochem. 195, 55 – 63.

### **CONTRIBUTED CONFERENCE PRESENTATIONS**

**Kinyanjui, P.W.** and Pearlman, R.E. (1985). Purification of thymidine kinase from *Tetrahymena thermophila*: An approach to DNA mediated transformation. Abstract in the VII<sup>th</sup> International Congress on Protozoology, Nairobi, Kenya. June 1985.

**Kinyanjui, P.W.** and Pearlman, R.E. (1987). Purification of thymidine kinase from *Tetrahymena thermophila*: a prelude to developing DNA mediated transformation with RNA polymerase II transcribed gene. Abstract in the 2<sup>nd</sup> International Congress on

Ciliates, San Francisco, California. August, 1987.

**Kinyanjui, P.W.** and Pearlman, R.E. (1988). Thymidine kinase from *Tetrahymena Thermophila*: Purification of the enzyme and cloning of the gene. Abstract in the International Congress of Genetics, Toronto, Ontario. August 1988.

**Kinyanjui, P.W.**, Njogu, N.W., Thuku, J and Omuse, J.K. (1990). Trypanocidal activity present in serum from African baboon. Abstract in the 1<sup>st</sup> Biochemical Society of Kenya Conference.

Apopa, P.L., Majiwa, P.A.O. and **Kinyanjui, P.W.** (2002). *Trypanosoma Nannomonas congolense*: Separation of chromosomes and identification of PCR product specific to medium-size chromosome 2. Abstract in the Biennial Conference of the Faculty of Veterinary Medicine, University of Nairobi.

Kamau, J.M., **Kinyanjui, P.W.**, Mwai, A.O. and Iraqi, F. (2004). Fine mapping of trypanosomosis resistance loci in murine by haplotyping approach. Abstract in the Biennial Conference of the Faculty of Veterinary Medicine, University of Nairobi.

**Kinyanjui, P.W.** (2006). Transgenic animal in livestock production. Review abstract in Biennial Conference of the Faculty of Veterinary Medicine, University of Nairobi.

Kamau, J.M., Mwai, O.A., **Kinyanjui, P.W.**, Agaba, M., Kemp, S.J., Gibson, J.P. and Iraqi, F.A. (August, 2006). Fine mapping of trypanosomosis resistance loci in Murine by haplotype approach. Paper presented in 8<sup>th</sup> World Congress on Genetic applied in livestock production, Belo Horizonte, Brazil.

Kariuki, L. W., Nguu, E.K., Njogu, R. M., **Kinyanjui, P.W.**, Midiwo, J.O., Bulimo, W.D., Kiara, J.K. (2007). Maesanin: A benzoquinone from *Maesa lanceolata* that completely inhibits respiration in bloodstream *Trypanosoma brucei brucei*. Abstract in International Conference on the Bioinformatics of African pathogens and disease vectors held in ILRI, Nairobi, Kenya, June 2007.

Kariuki, L. W., Nguu, E.K., Njogu, R. M., **Kinyanjui, P.W.**, Midiwo, J.O., Bulimo, W.D., Kiara, J.K. (2007). A benzoquinone from *Maesa lanceolata* that completely inhibits respiration in bloodstream *Trypanosoma brucei brucei* Abstract in 11<sup>th</sup> Biochemical Society of Kenya Symposium held at Kenyatta University, July 2007.

### **POSTGRADUATE STUDENTS SUCCESSFULLY SUPERVISED**

1. Alex Osanya, M.Sc. Graduate 1995  
Thesis Title: Interference of phylogenic relationships among Nannomonas trypanosomes by the use Random Amplified Polymorphic DNA (RAPD) analysis.

2. Billy Timothy Apola, M.Sc. Graduate 1998  
Thesis Title: Cloning and Sequencing of glucose transporter/glucose transporter related gene of *T.brucei brucei*.
3. Patrick Leo Apopa, M.Sc. Graduate 1998  
Thesis Title: Identification and Characterization of molecular hybridization markers specific for each of the four medium sized chromosomes of *T.congolense*.
4. Nancy Chepkorir Mosonik, M.Sc. Graduate 1998  
Thesis Title: A comparative analysis between *in vitro* and *in vivo* generated insect forms of *T. congolense*.
5. Suhaila Omar Hashim, M.Sc. Graduate 2000  
Thesis Title: Genetic variation in *P.falciparum* strains from malaria endemic regions of Kenya using PCR.
6. Muturi Bururia M.Sc. Graduate 2005 Thesis Title: Biochemical and genotypic characterization of multiple drug resistance *Klebsiella* strains isolated in Kenya.
7. Joseph Muiruri Kamau M.Sc. Graduate 2006.  
Thesis Title: Fine mapping of trypanosomosis resistance loci in murine by haplotyping approach.
8. Inosters Wambua Nzuki M.Sc. Graduate 2007 Thesis Title: Genetic diversity assessment in cowpea using microsatellite markers.
9. Eric Maina Magembe M.Sc. Graduate 2008 Thesis Title: Genetic diversity analysis among cowpea Accessions from Sub-Saharan Africa using simple sequence repeats (SSR<sup>s</sup>).
10. Joseph Kamau Muiruri Ph.D. Graduate 2011 Thesis Title: Functional analysis of putative *Theileria orientalis* hemolysins and molecular epidemiology of *Theileria orientalis* in Asia-Pacific region.

#### **POSTGRADUATE STUDENTS CURRENTLY UNDER SUPERVISION.**

1. Esther G. Kanduma Ph.D. Thesis Title: Population genetic analysis of the tick vector *R. appendiculatus* using micro and minisatellite DNA markers. (Research work completed, currently writing thesis).
2. Eric Maina Magembe Ph.D. Thesis Title: Genomics approach in the development of molecular diagnostic kits for banana *Xanthomonas* wilt, cassava brown streak

- virus and maize gray leaf spot. (Research work completed, currently writing thesis).
3. Dorcas Lusweti Ph.D. Thesis Title: Genetic structure of Nile perch in Lake Victoria. (Research work completed, currently writing thesis).
  4. Veronica Wambui Kamau M.Sc. Thesis Title: Characterization of HIV-1 strains among HIV-1 patients attending Kenyatta National Hospital to assess utilization of CCR5 antagonists in Kenya. (Research work completed, currently writing thesis).
  5. Daniel Gachuri Njau M.Sc. Thesis Title: STR analysis of human DNA from maggot fed on decomposing bodies: Assessment on time period for successful analysis. (Research work on going)

### **OTHER UNIVERSITY AND NATIONAL DUTIES**

1. Chairman, Clinical & Industrial Biochemistry Consultancy Unit, an IGU in Department of Biochemistry.
2. Member of departmental postgraduate committee.
3. Member of the Organizing Committee for Biennial Scientific Conferences for the years 2002, 2004 and 2006, Faculty of Veterinary Medicine.
4. Member of editorial board, Kenya Veterinarian Journal.
5. Member of FVM veterinary farm committee.
6. Member, Biochemical Society of Kenya
7. Member, Kiambu West District Education Board
8. Member, Board of Governors, Rungiri Secondary School.

### **TEACHING EXPERIENCE**

Taught Biochemistry to MBChB, BVM, BSc, Biochemistry, BSc. Biomedical Technology and BSc. Wildlife Management undergraduate students at various times for the last twenty one (21) years. Taught Molecular Biology/Biochemistry to M.Sc. students in departments of Biochemistry, Crop Science, Animal Production and Animal Physiology at various times for the last eighteen years. Organized and taught Molecular Biology techniques in various African regional courses.

## **LABORATORY EXPERIENCE**

Protein extraction and purification procedures (e.g. Anion exchange, gel filtration, affinity chromatography etc). Experience in purifying proteins to homogeneity for preparation of specific antibodies and for N-terminal sequencing.

Standard Molecular Biology procedures (restriction enzyme analysis, transformation of cells, Southern and Western blot analysis etc). Screening of libraries with antibody and oligonucleotide probes.

## **REFEREES**

Prof. V.B. Mbaya, Department of Biochemistry UON.

Prof. J.K. Munyua, Department of Biochemistry UON.

Prof. Njenga Munene, DVC Egerton University.