

DEPARTMENT OF BIOCHEMISTRY ANNUAL REPORT 2012

INTRODUCTION

The Department of Biochemistry is located in Chiromo Campus off Riverside Drive and is in the School of Medicine, College of Health Sciences.

The department offers degree courses in Bachelor of Science (BSc), Master of Science (MSc) and PhD in Biochemistry. The department also teaches biochemistry in the following programmes MBChB, Bpharm, BDS, BSc Nursing, BSc MLST, BSc. Agriculture, BSc. Food Science, BVM, BSc Wildlife Management, BSc Fisheries and Aqua Culture Management, MMed Surgery, MDS (MMED-PAED), MMED Psychiatry, MSc. Nursing, MSc . Animal Production and MSc. Crop Science.

Academic Staff and Designation

Professors	3
Associate Professors	8
Senior Lecturers	2
Lecturers	10
Tutorial Fellows	5

Staff Appointment and Promotion.

Name	Gender	Title	Comment
Prof. P.W. Kinyanjui	M	Associate Professor	Promotion to Associate Professor
Prof. E.K. Nguu	M	Associate Professor	“
Prof. L.U. Abubakar	F	Associate Professor	“
Prof. R.M. Njogu	M	Professor	Appointment
Dr. N. Atunga	M	Lecturer	“
Dr. C. Adhiambo	F	Lecturer	“
Ms. E.G. Murungi	F	Secretary	“
Ms. P.A. Ofuyo	F	Assistant Senior Secretary	Transferred to the Department on promotion

Staff retired, terminated services etc

Name	Gender	Title	Comment
Dr. R. Maathai	M	Lecturer	Terminated UoN services
Dr. D. Ogoyi	M	Senior Lecturer	Terminated UoN services
Dr. M. Kibe	M	Lecturer	Deceased
Mr. F.X.O. K'ombut	M	Chief Technologist	Retired
Mr. W. Mbugua	M	Senior Technologist	Retired

DEGREE PROGRAMMES OFFERED

BSc Biochemistry

MSc Biochemistry

PhD Biochemistry

NUMBER OF STUDENTS PER DEGREE PROGRAMME

BSc Biochemistry I	55
BSc Biochemistry II	50
BSc Biochemistry III	60
MSc Biochemistry	11
PhD Biochemistry	4

NUMBER OF STUDENTS GRADUATED

BSc Biochemistry	65
MSc Biochemistry	3
PhD	0

ONGOING POSTGRADUATE RESEARCH PROJECTS

Student	Degree	Project Title	Supervisors
Ms. E.G. Kanduma	PhD	Characterization of field strains of the tick vector <i>R. appendiculatus</i> using micro and minisatellite DNA markers.	Prof. P.W. Kinyanjui Dr. M. Kibe
Ms. L.W. Kariuki	PhD	Molecular characterization of Rift Valley Fever Virus Isolates from Kenya	Dr. D.W. Bulimo
Mr. Nyaboga Evans Nyaega	PhD	Genetic Transformation of Cassava (<i>Manihot esculenta</i> Crantz) for Abiotic Stress Tolerance	Prof. E. Nguu
Mr. E.M. Magembe	PhD	A genomics approach for the development of molecular diagnostic tools for Banana bacterial wilt, Cassava brown streak virus and Maize gray leaf spot	Prof. P.W. Kinyanjui Prof. J.C. Mukuria
Ms. V.W. Kamau	MSc	Genetic characterization of HIV-1 and genotypic characterization of viral tropism among patients at Kenyatta National Hospital	Prof. P.W. Kinyanjui Dr. E. K. Muge
Ms. R.M. Mumo	MSc	Effect of chemokine adjuvants on immunogenicity and protective efficacy of serine repeat antigen (SERA) DNA vaccine against plasmodium berghei IN MICE (<i>Mus musculus</i>)	Prof. C.O. Omwandho
Mr. D.G. Njau	MSc	STR analysis of human DNA from Maggot fed on decomposing bodies – assessment on time period for successful analysis	Prof. P.W. Kinyanjui Dr. E.K. Muge Prof. C.O. Omwandho
Ms. L. A. Ogonda	MSc	Value addition to Daga (<i>R. argentea</i>) through recovery of fish protein hydrolysate with bioactive properties	Prof. F.J. Mulaa Dr. E.K. Muge
Mr. A.K. Mwololo	MSc	Determination of high risk HPV	Dr. W. Bulimo

		co-infection in Aids related SCCC in patients presenting to Kenyatta National Hospital using biomolecular markers	
Mr. W. Kipandula	MSc	Antioxidant activities in extracts from indigenous vegetables from Kenya and Malawi.	Prof. E. Nguu
Mr. A. E. Araput	MSc	Development of a Rapid Diagnostic test for Differentiating Contagious Caprinepleuropneumonia (CCPP) Goat Vaccinates from Non-vaccinates	
Mr. F.M. Mbui	MSc	Genetic Analysis of Respiratory Adenoviruses among Pediatric Patients Attending New Nyanza Provincial General Hospital in the period June 2010 to June 2012.	Dr. W. Bulimo
Ms. I.K. Kiio	MSc	Isolation and characterization of Cellulytic Bacteria from Soils Excavated from Geothermal Wells along Kenya's Rift Valley.	Dr. E.K. Muge

PUBLICATIONS

1. Bulimo WD, et al. (2012) "Epidemiology of 2009 pandemic influenza A virus subtype H1N1 among Kenyans aged 2 months to 18 years, 2009-2010" J. Infect. Dis **15** 68-73
2. Bulimo WD, et. al (2012) "Influenza surveillance among children with pneumonia admitted to a district hospital in Coastal Kenya, 2007-2010" **1**:S61-70
3. Bulimo WD, et.al (201) "Molecular Characterization and phylogenetic analysis of the hemagglutinin 1 protein of human influenza A virus subtype H1N1 circulating in Kenya during 2007-2008" **15**: 46-52
4. Bulimo WD, et.al "Comparison of African swine fever virus prevalence and risk in two contrasting pig-farming systems in South-West and Central Kenya" <http://dx.doi.org/10.1016/j.prevetmed> 2012.11.2012
5. Esther N. Maina, et.al (2012) "Investigation of Prader – Willi-like Phenotype using a Whole Genome Array" African J. Pharmacology and Therap **1**: 84-91

6. Dr. E. Muge, Prof. P. Kinyanjui et.al (2012) “Predicted HIV – I correceptor usage among Kenyan patients shows a tendency of subtype d to be Cxcr 4 tropic” *AIDS Res. and Therapy* **9**: 1-7
7. E. Kanduma, P.Kinyanjui, M. Kibe “Micro and minisatellite-expressed sequence tag (EST) markers discriminate between populations of *Rhipicephalus appendiculatus*” *Ticks and Tick-borne Diseases* **3**: 128-136
8. E. Kanduma et.al (2012)“Phylogeography and Demographic History of *Amblyomma variegatum* (Fabricius) Acare: Ixodidae), the Tropical Bont Tick” *Vector –Borne and Zoonotic Diseases* **12**: 514-524
9. E. Kanduma et.al. (2012) “Trancriptional profiling of inflammatory cytokine genes in African buffaloes (*Syncerus caffer*) infected with *Theileria parva*. *Vet. Immunology & Immunopathology* <http://dx.doi.org/10.1016/j.vetiam.2012.06.015>
10. L. Abubakar et.al (2012)“Characterization of Algae oil (oilgae) and its potential as Biofuel in Kenya” *J. Applied phytotechnology in Environmental Sanitation* **4** : 147-153
11. L. Abubakar et.al (2012)“Antimicrobial activity of various extracts of the sea urchin *Tripneustes gratilla* (Echinoidea) *African J. Pharmaco and Therap* **1** 19-23
12. C. Omwandho et.al. (2012)“ TGF- β 'S induce smad-dependent signaling and apoptosis in human endometrial and endometriotic cells *International Glessen Life Sciences*
13. C. Omwandho et.al.(2012) “Transforming growth factor betas strongly enhance secretion of plasminogen activator inhibitor-1 of Human Endometrial and Endo metriotic cell *Trends Biochem Sciences* **25** 101-109
14. Kanduma et.al. (2012) Molecular detection and characterization of potentially new *Babesia* and *Theilera* species/variants in wild fields *from Kenya*. *Acta Tropica* <http://dx.doi.org/Acta Tropica 10.1016/j.act tropica.2012.06.2013>

CONFERENCES/SEMINARS/MEETINGS ATTENDED

1. Prof. L. Abubakar – participated in the International Conference on “The role of Muslim Women Scientists in the Development of Science and Technology” at University of Tehran on 12 and 13 December 2012.
2. Ms. C. Wasonga – attended the second national research – to- policy workshop at the Windsor Golf Hotel & Country Club Nairobi on 21 and 22nd June 2012.
3. Prof. F. Mulaa – Attended a meeting on the EU FP7 APROPOS Project held in Brussels, Belgium, on 10 to 11 September, 2012.
4. Ms. E. Kanduma- Attended the East Africa AWARD Fellows and Fellow Mentees Progress monitoring meeting in Uganda on Wednesday 13th June and Thursday 14th June 2012.
5. Prof. C. Omwandho – Attended a conference on African Higher Education harmonization tuning and shaping responsive and quality postgraduate education in Cape Town, South Africa in May 2012.
6. Prof. V. Mbaya – participated in a global cultural in a memorial tree-planting ceremony in honour of Professor Wangari Maathai on March 30, 2012 at Morningside Park in New York.
7. Dr. E. Nguu – attended a workshop on Biotechnology Communication in Lilongwe, Malawi in March 2012.