

**UNIVERSITY OF NAIROBI
COLLEGE OF HEALTH SCIENCES
SCHOOL OF MEDICINE
DEPARTMENT OF MEDICAL PHYSIOLOGY**

ANNUAL REPORT 2012

Introduction

The Department of Medical Physiology is located on the Chiromo Campus, (off Riverside Drive), University of Nairobi. It is part of the School of Medicine, College of Health Sciences.

The department offers the following courses in medical physiology: BSc (intercalated), MSc, and PhD. It also provides teaching in medical physiology for MBChB, BPharm, BDS, BSc Nursing, BSc MLST, MSc Nursing, and MMed degree programs offered by the College of Health Sciences. In addition it offers service course for the College of Agriculture and Veterinary Science for BSc FND degree.

Academic Staff and Designation

Professors	2
Associate Professor	2
Senior Lecturer	3
Lecturer	9
Tutorial Fellows	0
Total	17

Staff Appointments and Promotion

Name	Gender	Title	Comment
Dr. Charles Githinji	M	Lecturer	Promotion
Dr. Peter Waweru	M	Lecturer	Promotion
Dr. Jeswinder Sian-Hulmann	F	Part-time lecturer	Appointment
Ms. Maureen W. Waweru	F	Junior Technologist	Appointment
Mr. Bonface O Ochola	M	Junior Technologist	Appointment

Staff retired, on leave of absence, terminated, deceased

Name	Gender	Title	Comment
Paul Mungai Wambugu	M	Senior Lecturer	Leave of absence

Academic programmes

Undergraduate Programs

BSc Intercalated Honours Medical Physiology

Graduate Programs

MSc Medical Physiology

PhD Medical Physiology

Number of students admitted into each undergraduate programs

BSc Intercalated	6
MSc	3
PhD	0

Number of students graduated

BSc Intercalated	6
MSc	1
PhD	0

Student performance in other degree programs

Degree	Pass	Fail	i/c	Total
MBChB	336	39	36	401
BPharm	97	20	10	127
BDS	28	0	4	32
BSc Nursing	62	19	23	95
BSc Nursing (upgrade)	12	6	1	19
MMed Neurosurgery	7	0	1	8
MMed General Surgery	21	1	3	25
MMed Anaesthesia	7	0	2	9
MMed ENT Surgery	9	0	2	11
MMed Orthopedic Surgery	9	0	0	9

Number of students discontinued on academic grounds

None

Completed research projects and degrees in the Department of Medical Physiology

Student	Degree	Project	Supervisors
Niyodusinga Alphonse	MSc Medical Physiology	Effects of Acacia nilotica subalata on plasma metabolites	Dr. Fredrick Bukachi Dr. Teresa Kiama

		in normal and type 2 diabetes male rats	
Irungu Eric Mwangi H31/2174/2007	BSc Intercalated	Effect of <i>Withania somnifera</i> methanolic extract on ECG changes in organophosphate poisoned rats	Dr. Peter Waweru Dr. F. Bukachi
Njenga H31/2839/2008Peris W	BSc Intercalated	Effects of <i>Clerodendrum myricoides</i> extract on a diet and alloxan induced diabetes model	Dr. Peter Waweru Prof. Owino Okong'o
Nduati Paul K H31/21180/2008	BSc Intercalated	Effect of an escalating khat dose regimen on cognitive function in mice	Prof. N. Patel Dr. Anne Mureithi
Adegu William Jacob H31/22880/2008	BSc Intercalated	Effect of <i>Momordica charantia</i> aqueous leaf extract on gut and heart contractility	Dr. Anne Mureithi Dr. F. Bukachi
Shwetha Vijayan H32/28791/2009	BSc Intercalated	ECG changes associated with acute and chronic glue inhalation	Dr. F. Bukachi Prof. Owino Okongo
Jama Kalson M H31/28728/2009	BSc Intercalated	Effect of neurotoxic khat regimen on cognitive function in mice	Prof. N. Patel Dr. T.K Mwendwa
Munguti Cecilia Muenyi H31/2876/2008	BSc Intercalated	Effect of freeze dried extract of <i>Urtica massaica</i> mildbr on cardiovascular function	Dr. Peter Waweru Prof. Owino Okong'o

Ongoing postgraduate research projects

Student	Student no	Degree	Project	Supervisor
Hellen N Kariuki	H80/80020/2007	PhD	Antinociceptive activities of some medicinal plant extracts using animal models	Prof Paul Mbugua Prof T. Kanui Prof Abiy Yenesew

				Prof Nilesh B. Patel
Brian Lishenga Makamu	H56/78839/09	MSc	Effects of lipinnavir/ritonavir on plasma levels of endogenous cannabinoids in Sprague-Dawley rats	Dr. Fred Bukachi Dr. Peter Waweru

Department Publications

1. R.M.J. Deacon, T.D. Dulu, N.B. Patel. (2012) Naked mole-rats: Behavioural phenotyping and comparison with C57BL/6 mice. *Behavioural Brain Research* 231:193–200
2. Mateka Cyrus, Alkizim Faraj, Wambugu. Testicular neoplasm presenting with recurrent intestinal obstruction: A case report. *Afromedica* 2012 1(1):57-60
3. Keira Lowther, Victoria Simms, Lucy Selman, Lorraine Sherr, Hellen N. Kariuki, Aabid Ahmed, Zipporah Ali, Rachel Jenkins, Irene J Higginson and Richard Harding. Treatment Outcomes in Palliative Care: the TOPCare study. A Mixed Methods Phase III randomised controlled trial to assess the effectiveness of a nurse-led palliative care intervention for HIV positive patients on antiretroviral therapy. *BMC Infectious Diseases* 2012, 12:288 doi:10.1186/1471-2334-12-288
4. Matheka Duncan M; Kitua Morris; Alkizim, Faraj O. Peculiar glycemc patterns in alloxan induced diabetes animal model. 2012. *Afr. J. Pharmacol* 1(1): 30-34
5. Hellen N. Kariuki, Titus I. Kanui, Paul G. Kioy. Antinociceptive Potentiation of Pethidine (Demerol) by Clomipramine in the Late Phase of Formalin Test in Mice *Pan African Medical Journal* 12, 28, 10 June 2012
6. Matheka Duncan M; Alkizim, Faraj O. Glucose-lowering effects of *Momordica charantia* in diabetic rats. 2012. 2(1): 20-27.
7. Alkizim, Faraj O; Matheka Duncan M; Abdulrahman, Fatma Khalid; Muriithi, Anne. Inhibitory effect of *Mangifera indica* on gastrointestinal motility. *Medicinal Chemistry and Drug Discovery*. 2012. 2(1):9-16.
8. Alkizim, Faraj O; Matheka Duncan M; Muriithi, Anne. Dose-dependent myocardial toxicity of *Manifera indica* during diarrhea treatment. *African Journal of Pharmacology & Therapeutics*. 2012. 1(2): 67-70.
9. Matheka Duncan M; Alkizim, Faraj O; Kiama, Teresa N; Bukachi, Fredrick. Glucose-lowering effects of *Momordica charantia* (Karela) extract in diabetic rats. *African Journal of Pharmacology & Therapeutics*. 2012. 1(2): 62-66.
10. Hellen N. Kariuki, Titus I. Kanui, Abiy Yenesew, Nilesh B. Patel, Paul M. Mbugua. Antinociceptive activity of *Toddalia asiatica* (L) Lam. in models of central and peripheral pain. *Phytopharmacology* 2012, 3 (1) 122-129
11. Hellen N. Kariuki, Titus I. Kanui, Abiy Yenesew, Paul M. Mbugua and Nilesh B. Patel. Antinociceptive Activities of the Root Extracts of *Rhus natalensis* Kraus and *Senna singueana*. *Phytopharmacology* 2012, 2 (2), 1- 6.

Conferences/Workshops/Courses attended

1	Dr. Hellen N. Kariuki	Short course in Edinburgh UK	20 th – 27 th February 2012
2	Dr. E. S. Otieno	Surgical Society of Kenya Annual Scientific conference – Kisumu	19 th – 23 rd March 2012
3	Dr. Hellen N. Kariuki	African Palliative Care Research Network meeting in Kampala	23 rd – 26 th April 2012
4	Dr. M. F. Din	All Africa Ent Audiology conference (AAENTA) Victoria Falls, Zimbabwe	4 th – 8 th June 2012
5	Prof. N. B. Patel	Workshop on Developing National Guidelines for care and use of Animals in Research-for-Health in Kenya	4 th April 2012
6	Prof. N. B. Patel	2 nd East Africa Neuroscience conference	18 th – 20 th June 2012
7	Dr. Hellen N. Kariuki	International Association for the Study of Pain (IASP) 14 th World Congress	23 rd – 31 st August 2012
8	Prof. N. B. Patel	IBRO / UNESCO school of Neuroscience on Environment, Epigenetics and Behaviour – Pwani University	6 th – 17 th December, 2012
9	Prof. Owino Okongo	External Examiner, Maseno University School of Medicine	9 th – 13 th December 2012
10	Dr. Anne Muriithi	External Examiner, Moi University	

Outreach and community service activities

1. Brain Awareness Activity “Ubongo Campaign”
2. Brain Bee Competition

Teaching and research equipment purchased

Teaching Lap Top (HP)
Teaching LCD Projector
Table Top Analytical Balance
Deep Freezer
Optical microscopes
Magnetic Stirrer cum Hot plate
Lab Vacuum Pump
Blood Pressure Manometers
Digital Audiometer

Staff in Department of Medical Physiology

	Name	Designation
1	Prof. Owino Okongo	Professor
2	Prof. Kihumbu Thairu	Professor
3	Prof. Nilesh B. Patel	Associate Professor
4	Prof. Paul Kioy	Associate Professor
5	Dr. Paul Mbugua	Senior Lecturer
6	Dr. Anne Muriithi	Senior Lecturer
7	Dr. Fred Bukachi	Senior Lecturer
8	Dr. Frank Waweru	Lecturer
9	Dr. Mujahid Din	Lecturer
10	Dr. Edwin Otieno	Lecturer
11	Dr. Teresa Kiama	Lecturer
12	Dr. Teresa Kinyari Mwendwa	Lecturer
13	Dr. Hellen N Kariuki	Lecturer
14	Dr. Michael Muriithi	Lecturer
15	Dr. Peter Waweru	Lecturer
16	Dr. Charles Githinji	Lecturer
17	Mr. Charles Kinyungu	Chief Technologist
18	Mr Jacob A Owiti	Senior Technologist
19	Mr. Joseph G. N. Kangethe	Senior Technologist
20	Mr. Charles K. Nzivo	Senior Technologist
21	Ms. Mary W. Kimani	Senior Technologist
22	Ms. Juliet N. Ndungu	Senior Technologist
23	Mr. David K. Wafula	Technologist
24	Mr. Martin B. Kaburia	Technologist
25	Mr. Fredrick O. Bwana	Cleaner Grade II
26	Mr. David M. Horo	Animal Attendant Grade III
27	Ms. Rosemary M. Muindi	Secretary Grade A
28	Ms. Hellen N. Nyangoya	Secretary Grade B
29	Mr. Bonface O Ochola	Junior Technologist
30	Ms. Maureen W. Waweru	Junior Technologist
31	Mr. Joseph Moseti	Technical Assistant Grade II
32	Ms. Monica Onguka	Technical Assistant Grade II