

Academic staff professional profile information



A. Personal data

Name: David Mburu
Qualifications: 1) Bachelor of Veterinary Medicine (BVM)
2) Master of Science (Pharmacology & Toxicology)
3) Doctor of Philosophy (PHD)
Department: Biochemistry and Biotechnology
Position: Lecturer, September 2010
Chairman, January 2013
Specialization: Molecular Genetics

B. Publications

- 1) Lelo A.E., **Mburu D.N.**, Magoma G.N., Mungai B.N., Kihara J.H., Mwangi I.N., Maina G.M., Kinuthia J.M., Mutuku M.W., Loker E.S., Mkoji G.M., Steinauer M.L. (2014) No apparent reduction in schistosome burden or genetic diversity following four years of school-based mass drug administration in Mwea, Central Kenya, a heavy transmission area. *PLOS Neglected Tropical Diseases*, **8**, e3221. doi:10.1371/journal.pntd.0003221.
- 2) Misigo D., Mwaengo D. & **Mburu D.** (2014). Molecular detection and phylogenetic analysis of Kenyan human bocavirus isolates. *Journal of infection in Developing Countries*, **8**, 221-227.
- 3) **Mburu D.N.** (2013). Differential Utilization of CCR5 Molecules from Three East African Primate Species by the HIV-1 Envelope Glycoprotein. *International Journal of Biotechnology and Biochemistry*, **9**, 197-209.
- 4) Agola L.E., Steinauer L., **Mburu D.N.**, Mungai B.N., Mwangi N., Magoma G.M., Loker E.S. & Mkoji G.M. (2009). Genetic diversity and population structure of *Schistosoma mansoni* within human infra-populations in Mwea, central Kenya assessed by microsatellites markers. *Acta Tropica*, **111**, 219-225.
- 5) Muigai A.W.T., Okeyo A.M., Kwallah A.K., **Mburu, D.** & Hanotte O. (2009). Characterization of sheep populations in Kenya using microsatellite markers: Implications for conservation and management of indigenous sheep populations. *South African Journal of Animal Science*, **39** (Supp1), 93-96.

- 6) Fan B., Jianlin H., Chen S-L., **Mburu D.N.**, Hanotte O., Chen Qi-K., Zhao Shu-K. & Li K. (2008) Individual-breed assignments in caprine populations using microsatellite DNA analysis. *Small Ruminant Research* **75**, 154-161.
- 7) Agola L.E., **Mburu D.N.**, Dejong R.J., Mungai B.N., Muluvi G.M., Njagi E.N.M., Loker E.S. & Mkoji G.M. (2006). Microsatellite typing reveals strong genetic structure of *Schistosoma mansoni* from localities in Kenya. *Infection, Genetics and Evolution*, **6**, 484-490.
- 8) Odongo D., Oura C.A.L., Spooner P., Kiara H., **Mburu D.**, Hanotte O. & Bishop R.P. (2006). Genetic diversity at mini- and micro-satellite loci of *Theileria parva* isolated from cattle in a spectrum of geographically separated regions of Kenya. *International Journal of Parasitology*, **36**, 937-946.
- 9) **Mburu D.N.**, Ochieng J.W., Kuria S.G., Jianlin H., Kaufmann B., Rege J.E. & Hanotte O. (2003). Genetic diversity and relationships of indigenous Kenyan camel (*Camelus dromedarius*) populations: implications for their classification. *Animal Genetics* **34**, 26-32.
- 10) Hanotte O. & Mburu D. (2002). Genetic diversity and relationship of indigenous Kenyan camel breeds. In: *Camel Breeds and Breeding in Northern Kenya-An Account of Local Breeds of Northern Kenya and Camel Breed Management of Turkana, Rendille, Gabbra and Somali Pastoralists.*(Eds C.G. Hulsebusch & Kaufmann B.A.), pp 109-120.
- 11) Jianlin H., **Mburu D.**, Ochieng J., Kaufmann B., Rege J.E. & Hanotte O. (2000). Application of New World Camelidae microsatellite primers for amplification of polymorphic loci in Old World camelids. *Animal Genetics* **31**, 404-406.
- 12) **Mburu D.N.**, Roberts T.K. & Boettcher B. (1999). Over expression of human testis antigens in *Escherichia coli* host cells is influenced by site of expression and the induction temperature. *Biochemistry and Molecular Biology International* **47**, 1009-1018.
- 13) **Mburu D.N.** (1999). Maturation-related changes in distribution of lectin receptors in baboon (*Papio anubis*) spermatozoa during epididymal maturation. *Archives of Andrology* **42**, 199-203.
- 14) **Mburu D.N.** (1998). Maturation of epididymal sperm in the baboon: distribution of lectin receptors. *Advances in Reproduction* **1**, 28.
- 15) **Mburu D.N.** & Gichuhi P. (1993). Reproductive immunology: male fertility regulation. In: *Veterinary Management and Research Techniques for Reproductive Studies in the Baboon: A practical Approach.* (Ed Bambra C.S.).
- 16) **Mburu D.N.** & Isahakia M.A. (1992). Lectin receptors: changes in distribution on baboon sperm membrane following epididymal maturation. *American Journal of Reproductive Immunology* **27**.

- 17) **Mburu D.N.** (1991). Evaluation of anti-inflammatory effects of a low dose of acetaminophen following surgery in dogs. *Journal of Veterinary Pharmacology and Therapeutics* **14**, 109-111.
- 18) **Mburu D.N.**, Maitho T.E. & Lökken P. (1990). Acetylsalicylic acid or paracetamol? *East African Medical Journal* **67**, 302-310.
- 19) Opinya G.N., **Mburu D.N.**, Birkeland J.M. & Lökken P. (1990). High fluoride levels in some Kenyan beverages a health risk. *Discovery and Innovation* **2**, 91-96.
- 20) Opinya G.N., **Mburu D.N.**, Birkeland J.M. & Lökken P. (1989). Fluoride content and intake by infants and toddlers from commercial infant formulae and cereals in Kenya. *Discovery and Innovation* **1**, 91-94.
- 21) **Mburu D.N.**, Mbugua S.W., Skoglund L.A. & Lökken P. (1988). Effects of paracetamol and acetylsalicylic acid on the post-operative course after experimental orthopaedic surgery in dogs. *Journal of Veterinary Pharmacology and Therapeutics* **11**, 163-170.

B. Conference presentations

- 1) Mburu D.N. (2013). Challenges in design, construction and management of high containment BSL3 facilities in emerging economies. *2nd Annual Biosafety Convention: Biosafety Advocacy for Realization of Vision 2030, Kenyatta International Conference Centre, August 7-9, Nairobi, Kenya.*
- 2) Mburu D.N. (2013). Design, construction and maintenance of high bio-containment facilities. Preconference workshop. *2nd Annual Biosafety Conference: Biosafety Advocacy for Realization of Vision 2030, Kenyatta International Convention Centre, August 5-6, Nairobi, Kenya*
- 3) Mwala D.M., Mwaengo D.M. and **Mburu D.N.** (2011). A new parvoviridae family virus associated with respiratory infections (Kenya). *1st International Scientific Congress: Towards Optimum Health Care, College of Health Sciences, University of Nairobi, June 15-17, Nairobi, Kenya.*
- 4) Ole Kwallah A.B., Okeyo A.M., **Mburu D.**, Hanotte O. and A.W.T. Muigai (2010) Genetic diversity and relationships of sheep breeds of Kenya: Preliminary results and evidence of dilution of the indigenous Red Maasai. *Proceedings of the 9th World Congress on Genetics Applied to Livestock Production, Leipzig Germany 1-6th August 2010.*
- 5) Kwallah A.B.O., Muigai A.W.T., **Mburu D.**, Mwai O and Imbuga M. (2007) Genetic diversity of the Kenyan sheep - current status. *National Science and Agricultural Conference, July 21-23, Kigali, Rwanda.*
- 6) **Mburu D.**, Fan B., Vahidi S.M.F., Faruque M.O., Binh N.T., Nanayakkara H.L.V., Zein M.S.A. Mahmood S., Li K., Thuy L.T., Silva L.P., Muladno M., Naqvi A., Mirhoseinie S.Z., Alshaikh M.A., Kibogo H.G., Ajmone-Marsan P., Boettcher P.J., Garcia J.F., Hanotte O. &

- Jianlin H. (2006) Genetic diversity and population structure of indigenous goats from Asia. *XIIth Asian Australasian Association of Animal Production Societies, September 18th-22nd, Busan, South Korea.*
- 7) Aswani B.O., Kijas J., Limo M., Hannote O. & **Mburu D.** (2006) Analysis of genetic diversity and relationships of the African male sheep using two Y chromosome specific markers. *Proceedings of the 30th International Conference on Animal Genetics, August 20th-25th, 2006 Porto Seguro, Bahia State, Brazil.*
 - 8) Alimohammadian M., Anderson S., Brass A., Gibson, J.P., Hulme H., Iraqi, F.A., Kemp, S.J., **Mburu D.**, Naessens J. & Noyes H.A. (2006). Identification of gene networks associated with anaemia caused by *Trypanosoma congolense*. *Genomes to Systems Conference, March 22nd-24th, Manchester International Convention Centre, Manchester, UK.*
 - 9) Koudandé O.D., Dossou-Gbété G., Mujibi F., Kibogo H., **Mburu D.**, Mensah G.A., Hanotte O. & van Arendonk J.A.M (2005). Cattle genetic diversity assessment in the coastal regions of the BIGHT of Benin. *The Role of Biotechnology in Animal Agriculture to Address Poverty in Africa: Opportunities and Challenges. 4th All Africa Conference on Animal Agriculture, September 20th-24th, Arusha, Tanzania.*
 - 10) **Mburu D.N.** & Hanotte O. (2005). Comparative genetic analysis of molecular diversity of African cattle. *FAO Conference on the Role of Biotechnology for the Characterization and Conservation of Crop, Forestry, Animal and Fishery Genetic Resources, March 5th-7th, Turin, Italy.*
 - 11) **Mburu D.N.**, Naessens J., Noyes H., Kemp S., Gibson J. & Iraqi F. (2004). Development of pathology in A/J, C57BL/6 and BALB/c mice following *Trypanosoma congolense* infection. *18th International Mouse Genome Conference, October 17th-22nd, Seattle, USA.*
 - 12) Naessens J., **Mburu D.N.**, Noyes H., Kemp S., Gibson J. & Iraqi F. (2004). The capacity to control of anemia development and parasitaemia growth is under different genetic mechanisms in African murine trypanosomosis. *18th International Mouse Genome Conference, October 17th-22nd, Seattle, USA.*
 - 13) Agola L.E., **Mburu D.N.**, Dejong R.J., Mungai B.N., Muluvi G.M., Njagi E.N.M., Loker E.S. & Mkoji G.M. (2004). Analysis of genetic diversity in Kenyan populations of *Schistosoma mansoni* using microsatellite markers. *25th African Health Sciences Congress, October 4th-8th, Nairobi, Kenya.*
 - 14) Kierstein G., **Mburu D.N.**, Muigai A.W.T., Jianlin H., Rege J.E.O. & Hanotte O. (2003). Understanding the genetic diversity of livestock: an essential step for the management and improvement of farmers' resources. In: *Deutscher Tropentag. (Eds Wollny C., Deininger A., Bhandari N., Maas B., Manig W. & Muuss U.), Göttingen, Germany, 8th-10th October, 2003.*
 - 15) Iraqi F.A., Noyes H., **Mburu D.**, Wade C., Kemp S. & Gibson J. (2003). Multiple approaches for dissecting quantitative trait loci and cloning the underlying genes. *Complex Trait Consortium Meeting, July 1st-3rd, Oxford, UK.*

- 16) **Mburu D.N.**, Ochieng J.W., Jianlin H., Kaufmann B., Kuria S.G., Rege J.E.O. & Hanotte O. (2001). Genetic diversity and relationship of indigenous Kenyan camel breeds: preliminary results. *In: The Challenges of Drought to Livestock Production in Kenya* (Eds Abdulrazak S.A., Mwangi D. & Mukisira E.A.), pp 151-154. *Proceedings of the Animal Production Society of Kenya. Symposium held at Egerton University, Njoro, March 7th-8th. APSK, Nairobi, Kenya.*
- 17) **Mburu D.**, Otsyula M., Graham B. & Spearman P. (1999). Molecular cloning and sequencing of CCR5 molecules from three East African simian species. *In: Sustainable Research in Biomedicine, Health and Conservation. Proceedings of the 14th IPR Annual Scientific Conference, 10th-11th November 1999, Nairobi, Kenya.*
- 18) **Mburu D.**, Otsyula M., Graham B. & Spearman P. (1999). Differential utilization of CCR5 molecules from three East African simian species by the HIV-envelope glycoprotein. *In: Sustainable Research in Biomedicine, Health and Conservation. Proceedings of the 14th IPR Annual Scientific Conference, 10th-11th November 1999, Nairobi, Kenya.*

C. Awards

- 1) **National Biosafety Authority Award (2013).** Award in recognition for significant contribution to biosafety in Kenya in the category of medical laboratory research and public health.
- 2) **EU-KARI Team Award (2003).** Award for the second best collaborative project Agricultural/Livestock Research Support Programme Phase II, EU-KARI (Kenya Agriculture Research Institute). *"Characterisation of Kenyan camels and pastoral breeding/husbandry strategies"*.
- 3) **Vanderbilt University Certificate of Recognition (1999).** Recognition of faithful and satisfactory performance of all duties while an international fellow in AIDS pathogenesis and vaccine development. Vanderbilt University, Nashville, Tennessee, USA.
- 4) **Akoma Award (1998).** Outstanding contribution in AIDS research. Jr Southern Heir's Club Tennessee Chapter. Nashville, Tennessee, USA.

D. Supervision of postgraduate students

- 1) Munyasia Joan Ndumu, Msc, 2015-Completed. *"Biochemical effects of sewage pollution on bioethnic organisms Nerita polita"*.

- 2) Mungiria Juster, Msc, 2014-completed. *“Impact of child malnutrition on the antibody response to Plasmodium falciparum at Ishiara Distric Hospital in Mbeere District, Kenya”*
- 3) Ouma Seth Otieno, Submitted, 2015. *“Physico-chemical and bacteriology quality analysis of water from five rural catchment areas of lake Victoria bain in Kenya”*.
- 4) Juma Kelvin Kisaka, Submitted, 2015. *“Effects of Urtica dioica on liver function following acetaminophen induced hepatotoxicity in mice”*.
- 5) Gitahi Stephen Maina, Submitted, 2015. *“Antipyretic and antinociceptive properties of dichloromethane: methanolic leaf and root bark extracts of Carissa edulis (Forssk.)Vahl in rats”*.
- 6) Kinara Tobia, 2014-ongoing. *“Evaluation of the relationship between renal function and urinary tract infection in asymptomatic teenagers from Wajir town”*.
- 7) Ashiembi Seruya Nyakowa, PhD, 2014-ongoing. *“Comparative analysis of the physicochemical and microbial quality of Kenyan honey and the implications in the development of national standards”*.
- 8) Rono Franklin Kipyegon, Msc 2014-ongoing. *“Comparison of MicroScan WalkAway 40 Plus and Bruker MALDI Biotyper systems for clinical diagnosis of enteric pathogens in Kenya”*.
- 9) Mrama Jackson Ireri, PhD, 2012-ongoing. *“Changes in serum levels of erythropoietin, C-reactive protein, tumor necrosis factor-alpha and interlukin-6 in HIV-infected patients”*.
- 10) Makila Irene, Makila, Msc, 2012-ongoing. *“Determination of aflatoxin levels in cassava and cassava products from Teso district in western Kenya”*.
- 11) Eric Lelo, Jomo Kenyatta University of Agriculture and Technology, 2010, PhD. *“Analysis of Schistosoma mansoni populations from Mwea, central Kenya using microsatellite markers, with reference to the influence of host age, infection intensity and praziquantel treatment on parasite genotypes”*.
- 12) Mwala Dennis, University of Nairobi, 2010. Msc. *“A descriptive study of the newly identified human bocavirus, molecular diagnosis and genotyping of Kenyan isolates of the virus”*.
- 13) Allan Kwallah, Jomo Kenyatta University of Agriculture and Technology, 2006. Msc. *“Characterisation of indigenous fat-tailed sheep of Kenya: a microsatellite approach”*.
- 14) Bernard Ouna, Egerton University, 2006, Msc. *“Genetic diversity and relationships of African sheep a Y chromosome perspective”*.

