

Curriculum vitae



Dr. David M. Mburu (Ph.D)

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Training

I am Scientist/Snr. Lecturer (affiliation: Pwani University) with an earned Ph.D from the Jomo Kenyatta University of Agriculture and Technology (JKUAT) in **Zoology** with a 4-year Research work undertake at *icipe*-African Insect Science for Food and Health laboratories (**Arthropod Pathology Unit, Behavioural and Chemical Ecology Department and Molecular Biology and Biotechnology Department**), Nairobi, Kenya. Prior to the doctorate, I earned an MSc. in Tropical Entomology (**Medical and Agricultural Entomology**) (University of Zimbabwe) and a BSc. in **Zoology Botany and Chemistry** (JKUAT).

Other advanced professional courses

1. **Education and Sustainable Development and Policy development training course-** National Environmental Management Authority (NEMA), Training workshops
2. **Knowledge in Ethical Review issues in Science** – University of Nairobi, Training workshop
3. **Communication, Planning and Research in Community Development** - University of Zimbabwe
4. **Ecological Aspects of Bio-interactions in life-** *icipe*-African Insect Science for Food and Health, Training workshop
5. **Basic and Advanced Biostatistics** – JKUAT/University of Zimbabwe, *icipe*-African Insect Science for Food and Health
6. **Research and Developmental studies**-JKUAT, Training workshop
7. **Chemical Communication; genomics to ecosystem functioning** - *icipe*-African Insect Science for Food and Health, Training workshop
8. **Pedagogical skills in Teaching and learning-** Pwani University, Training workshop
9. **Use of computer models for genomic advances** - Pwani University-Kemri Wellcome Trust Programme ,Training workshop
10. **From Genomes to Functions: Analyzing *Glossina* genome cluster-** BRI, Muguga, Training workshop
11. **Research Ethics Committees and review of research protocols:** KWTRP-SARETI Workshop 30th May to 3rd June 2016: Held at Mnarani Club, Kilifi, Kenya
12. **From Analogue to Digital: Geospatial modeling in R:** University of

Publications

4 articles in peer referred international journals

1. Mburu, D.M., Maniania, N.K., Hassanali, A. (2013) Comparison of volatile blends and nucleotide sequences of two isolates of *Beauveria bassiana* of different virulence and repellency toward the termite *Macrotermes michaelseni*. *Journal of Chemical Ecology*, **39(1): 101-108**.
2. Niassy, S., Maniania, N.K., Subramanian, S., et Al. (2012). Selection of promising fungal biological control agent of Western Flower Thrips *Frankliniella occidentalis* (Pergande). *Letters in Applied Microbiology*, **54:487-93**.
3. Mburu et al. (2011) Comparison of volatile blends and gene sequences of two isolates of *Metarhizium anisopliae* of different virulence and repellency toward the termite *Macrotermes michaelseni*. *Journal of Experimental Biology*, **214:956-962**.

4. Mburu et al. (2009). Relationship between virulence and repellency of entomopathogenic isolates of *Metarhizium anisopliae* and *Beauveria bassiana* to the termite *Macrotermes michaelseni*. *Journal of Insect Physiology*, 55: 774-780.

1. **3 articles** in Conference proceedings
2. **4 articles** ready for submission for publication in peer referred international journal.
3. **6 articles** under preparation.
4. Has published **one University level book**.
5. University Policy Document on 'Education for Sustainable Development'

Workshops/conferences/awards

1. **Attended 16 international Conferences and subsequent appearance in books of Abstracts**
2. **Facilitated 3 National and 4 international Training workshops**
3. **Attended 16 international/national conferences and presented 15 papers**
4. **4 International & national awards/fellowships including 3 National grant**

Current Research

1. PI: *Mapping the existing, emerging and re-emerging vectors and vector-borne pathogens for disease surveillance and sustainable healthcare preparedness in Kenya* - Funded by the National Council for Science and Technology grant. (In: Collaboration. Pwani University-Kemri-Wellcome Trust research Programme)
2. CO-PI: Assessment of the impact of climate change on the environmental health and community livelihoods in selected areas in River Tana and Athi deltas using geospatial simulation models.' (On-Going, 1 PhD scholar), - Funded by the National Council for Science and Technology grant.
3. PI: Evaluation of socioeconomic burden of vectors and the associated diseases impact on the socioeconomic status of households in matuga : case study of malaria, trypanosomiasis and rickettsiae (On-Going, 1 MSc. Scholar), - Funded by the National Council for Science and Technology grant.
4. CO-PI: Evaluation of the benefits of Lower Tana conservancy trust towards livelihoods among communities: a case of community development at the Kenyan coast. (On-Going, 1 MSc. Scholar). Funded by Kenya Coastal Development Program (KCDP).
5. CO-PI: Polymorphism of African golden cat in arabuko-sokoke game reserve along the Kenyan coast. (On-Going, 1 MSc. Scholar). Funded by Kenya Coastal Development Program (KCDP).
6. CO-PI: *Phylogenetic characterization of epibiotic bacteria co-existing with the Kenyan marine *Lyngbya majuscula** (On-Going, 1 MSc. Scholar), PI- Funded by the National Council for Science and Technology grant. PI:
7. Phytochemical composition and repellency of volatile profiles emitted by peppermint plant, *Mentha piperita* against *Anopheles gambiae sensus stricto*. 1 MSc. Scholar, On-going, Co-Supervision.
8. Spatial distribution of biting flies, host preference of tsetse flies and prevalence of Trypanosomes in non-human primates along the Kenyan coast(1 PhD scholar On-goig)
9. Profiles of human foot microbiotic of individuals with differential attraction to *Anopheles gambiae* in a malaria endemic region in Kenya. 1 MSc. Scholar, On-going, Co-Supervision

Professional membership

1. Pan-African Mosquito Control Association (PAMCA-*Ad hoc* Local organizing committee member)
2. Ethical Review Committee member, Pwani University
3. African Association of Insect Science (AAIS)
4. SEMIO Group (Semio-chemical and Insect Ecology Group)
5. Muthina Group of Associates (Community Development group)
6. African Postgraduate Programme in Insect Science (ARPPIS)-Alumni
7. The Jomo Kenyatta University of Agriculture and Technology -Alumni
8. Entomological Society of America

PEER REVIEWER OF JOURNALS

1. **Chemoecology**
2. **Bioenergy**
3. **Journal of Insect Physiology**
4. **Journal of Inset Science**
5. **Journal of Visualized Experiments(JoVE)**

Thesis examiner

1. **MSc. Thesis in Public Health titled:** Determinants of maternal Healthcare service utilization in Ganze District, Kilifi County of Kenya
2. **MSc. Thesis in Public Health titled:** Distribution and reproduction patterns of *Epinephelus* genus groupers in the inshore fisheries off Kenyan coast

Experience – Teaching at University Level

1. 1st Jan. 2014-Present, Senior Lecturer: Pwani University (Entomology, Biostatistics, Physiology, Parasitology, Immunology)
2. March 2010-1st Jan. 2014, Lecturer: Pwani University (Entomology, Biostatistics, Physiology, Parasitology, Immunology)
3. Jan 2009 –Feb. 2010 at Moi University- D.Phil. (Advanced Plant Bacteriology, Research Methodology) and M.Phil. (Pesticide Science, Biological Control of Arthropod pests) programmes, Part-Time Lecturer
4. March 2008– Dec. 2009 at Catholic University of Eastern Africa- Undergraduates, General Entomology, program, Part-Time Lecturer
5. April 2009 –August 2009 at Jomo Kenyatta University of Agriculture and Technology, MSc. Biochemistry Program (Insect Biochemistry), Part-Time Lecturer
6. March 2009– Dec. 2009 at United State International University (USIU), Undergraduates, Biology program
7. April, 2010-current, Scientist/Lecturer, Pwani University

Leadership Roles

1. 2010-To-date: Board Member, School of Graduate Studies, Pwani University
2. 2010-2012: Chairman, General Service Committee, Pwani University
3. 2011- 2012: Alternative Chairman, Procurement service committee, Pwani University
4. 2011-To-date: Appointed external reviewer of proposals at a Non- affiliate National University, Kenya
5. 2011-To-date: Appointed internal reviewer of proposals at affiliate National University, Kenya
6. 2011-To-date: Appointed Peer reviewer of internationally submitted Manuscripts for Springer and Elsevier publishers

Mentorship in academic and research field

1. 10 BSc. Project dissertations – at Pwani University (3 **completed**, 2 **on-going**)
2. 5 MSc. Students at Pwani University (**on-going**)
3. 2 Msc. Students Co-supervision-Kenyatta University (**on-going**)
4. 2 PhD students at Pwani University (**on-going**)
5. 1 MSc. Student (**Completed**)

Books under preparation for publication and for use at university level

1. An Encyclopedia for Resource Information and Funding in Africa
2. Guide for Thesis Preparation in Science world

Experience – Teaching at University Level

1. 1st Jan. 2014-Present, **Senior Lecturer:** Pwani University (Entomology, Biostatistics, Physiology, Parasitology, Immunology)
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4. March 2008– Dec. 2009 at Catholic University of Eastern Africa- **Undergraduates**, General Entomology, program, **Part-Time Lecturer**
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6. March 2009– Dec. 2009 at United State International University (*USIU*), Undergraduates, Biology program
7. April, 2010-current, Scientist/Lecturer, Pwani University

Experience – Research (in addition to published research articles mentioned above)

1. Dec 2008-Dec. 2009-Research fellow – Dept. of Behavioural and Chemical Ecology/Arthropod Unit/Molecular Biology and Biotechnology Department, *icipe*- African Insect Science for Food and Science, Nairobi, Kenya
 2. March 2001-2002, MSc. fellow {Taught and [Research (Mosquito Biology)]} University of Zimbabwe and Blair Research Institute, Mt. Pleasant, Harare, Zimbabwe.
 3. Jan. 2000- March 2001- Technical Assistant, African Fruit Fly Initiative (AFFI), *icipe*- African Insect Science for Food and Science, Nairobi, Kenya
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Trusted Referees

Prof. Paul Mwashimba Guyo (p.guyo@pu.ac.ke) (+ 254 (0) 722 782 020)
Dean, School of Pure and Applied Sciences, Pwani University, P. O. Box 195 -80108, Kilifi, Kenya

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