

Pwani University

Staff Profile Form

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Dr. David Mwangi Mburu

Address: P.O.Box 195-80108, Kilifi

Email: D.Mburu@Pwaniuniversity.Ac.Ke, Davmburu12@Gmail.Com

Tel: +254 722 211 986

Department: Biological Sciences Department (Pwani University)

School: School Of Pure And Applied Sciences (Spas)

Designation: Lecturer

Academic Qualifications: Phd, Msc., Bsc.

- Ph.D In Zoology (Behavioural And Chemical Ecology) (Mar. 2004- Dec. 2007); Jkuat/Icipe, Mentor- Prof. Dr. Ahmed Hassanali (Emeritus Scientist-Icipe)
- Research Extension Fellowship (Icipe)(Jan. 2008 - Dec. 2009)
- Part-Time Lecturer (Moi University, Jkuat, Cuea, And Usiu) (2006-2009)
- Msc. Tropical Entomology (Theory & Research) (Mar. 2001-Dec. 2002); Uz, Mentor- Prof. Bernard Marshall And Dr. H.T. Masendu
- Technical Research Assistant (Jan. 2000-March 2001); Icipe
- Bsc. Zoology, Botany, Chemistry; Hons. (Dec. 1999); Jkuat)

Current Research

1. Mapping the Existing, Emerging and Re-Emerging Vectors and Vector-Borne Pathogens For Disease Surveillance And Sustainable Healthcare Preparedness In Kenya (On Going).
2. Evaluation of Cover Cropping Systems and Their Effects on Soil Properties, Arthropod Pest Bionomics and Productivity of Orange Orchards at the Kenyan Coast (On-Going).
3. Phylogenetic Characterization of Epibiotic Bacteria Co-Existing With the Kenyan Marine *Lyngbya Majuscula* (On-Going).
4. Evaluation Of Functional Molecular Signatures Underlying Aggregation Behaviour In Desert Locust, *Schistocerca gregaria* For Sustainable Food Security For Small-Holder Farmers
5. Behavioral And Electrophysiology Responses Of *Amblyomma cajennense* (Fabricius, 1787) (Acari: Ixodidae) (Cnpq/Twas) (Completed).

Areas of Scientific Interest

My Research Interests Are In Plant-Animal, Vertebrate-Microbes, Vertebrate-Invertebrate And Vertebrate-Vertebrate Interactions At Biochemical, Genomics, Transcriptomics, And Metabolomics Levels For Insights Underlying Mediating Mechanisms.

Journals and Papers Presented

Selected Publications

(a) Books

- Mburu, D.M. Et Al. (2011). Virulence And Repellency Of Fungi On *Macrotermes* And Mediating Signals: Termite-Fungi Interactions And The Mediating Chemical Signals. Lambert Academic Publishing. *Isbn. 978-3-8443-1467-0*.

(B) Recent Publications: Journal Papers

- 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
- 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.
- Mburu Et Al. (2011). Comparison Of Volatile Blends And Gene Sequences Of Two Isolates Of *Metarhiziumanisopliae* Of Different Virulence And Repellency Toward The Termite *Macrotermes michaelseni*. *Journal Of Experimental Biology*, 214: 956-962.
- Mburu Et Al. (2009). Relationship Between Virulence And Repellency Of Entomopathogenic Isolates Of *Metarhiziumanisopliae* And *Beauveria bassiana* To The Termite *Macrotermes michaelseni*. *Journal Of Insect Physiology*, 55: 774-780.

(C) Conference Proceedings

- Mburu Et Al. (2009). Identification And Blend Effects Of Repellent Volatiles Of Entomopathogenic Fungi Towards The Termite *Macrotermes michaelseni*. 42nd Annual Meeting Of The Society For Invertebrate Pathology, Utah, Usa. 16-20 August 2009.
- Mburu Et Al. (2008). Termite Fungi Interactions: Are Semiochemicals Involved In The Defense Behaviour Of The Termite, *Macrotermes michaelseni*? 23rd congress Of Entomology. Durban South Africa. 6th -12th July 2008. Pp 96.
- 2nd Biannual Conference (Semio). Pheromone Research For Pest Control And Management. Arusha International Conference Centre, Arusha, Tanzania. 10th – 14th Feb. 2008.

- Mburu Et Al. (2007). Two-Pronged Effects Of *Metarhiziumanisopliae* Towards Termites: An Evolutionary Perspective. *Proceedings Of 2007 Jkuat Scientific, Technological And Industrialisation Conference*. Pp. 844-854.
- Mburu Et Al. (2007). Avoidance Of Entomopathogenic Strains Of *Metarhiziumanisopliae* By Termites: An Evolutionary Perspective. *40th Annual Meeting Of The Society For Invertebrate Pathology And 1st International Forum On Entomopathogenic Nematodes And Symbiotic Bacteria. Quebec, Canada. 12-16 August 2007*.
- 15th Biannual Congress Of The Association Of Insect Scientist (Aais), Icipe, Dudu Ville Campus. 9th –13th June 2007.

Others:

D) Thesis

- Mburu, D. M. (2009). Relationship Between Virulence And Pathogenicity Of *Metarhiziumanisopliae* And *Beauveria bassiana* Towards Termites, *Macrotermes michaelseni* And Identification Of The Mediating Chemical Signals. *Phd Thesis*.
- Mwangi, D. M. (2003). The Effects Of Temperature On Development, Survival, Body Size, Gonotrophic Cycle And Fecundity Of *Anopheles Arabiensis* (Diptera: Culicidae) And *Aedes aegypti* (Diptera: Culicidae) In The Laboratory- *Msc. Thesis*.

(E) University Policy Document

- Education For Sustainable Development (Pwani University)

(F) Several Articles

Ready For Submission For Publication In Peer Referred International Journal.

Membership

Professional Membership

1. Pan-African Mosquito Control Association (Pamca)
2. Entomological Society Of Kenya
3. African Association Of Insect Science (Aais)
4. The Jomo Kenyatta University Of Agriculture And Technology Alumni
5. Semio Group (Semiochemical And Insect Ecology Group)
6. Muthina Group Of Associates (Community Development Group)
7. Ncst-Ethical Review Committee, Pwani University College

Leadership Roles

- A. 2012 To-Date: School Of Pure And Applied Sciences Representative To Graduate School, Pwani University
- B. 2012 To-Date: Chairman Departmental Post Graduate Committee, Pwani University
- C. 2011- 2012: Alternative Chairman, Procurement Service Committee, Pwani University
- D. 2011-To-Date: Appointed External Reviewer Of Proposals At A Non- Affiliate National University, Kenya
- E. 2011-To-Date: Appointed Internal Reviewer Of Proposals At Affiliate National University, Kenya
- F. 2011-To-Date: Appointed Peer Reviewer Of Internationally Submitted Manuscripts For Springer And Elsevier Publishers
- G. 2010-2012: Chairman, General Service Committee, Pwani University
- H. 2010- Todate: Member, Research Ethic Review Committee, Pwani University

Experience – *Teaching At University Level*

1. March, 2010- To Date, Scientist/Lecturer, Pwani University
(Teaching, Biostatistics(Msc./Undergraduate), Entomology (Undergraduate), Parasitology(Undergraduate), Immunology (Undergraduate), Microbial Pesticies (Msc.))
2. 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
3. March 2008– Dec. 2009 At Catholic University Of Eastern Africa- Undergraduates, General Entomology, Program, Part-Time Lecturer
4. April 2009 –March 2010 At Jomo Kenyatta University Of Agriculture And Technology, Msc. Biochemistry Program (Insect Biochemistry), Part-Time Lecturer
5. March 2009– Dec. 2009 At United State International University (*Usiu*), Undergraduates, Biology Program

International Awards

Arppis-Msc. Sub Regional Scholarship (2001)-University Of Zimbabwe

Arppis-Ph.D Scholarship (2004-2007) –Jkuat

Mentorship In Academic And Research Field

1. 4 Bsc. Dissertations – At Pwani University (3 Completed, 1 On-Going)

2. 1 Msc. Student At Pwani University (On-Going)
3. 2 Phd Students At Pwani University (On-Going)
4. 1 Phd Student At Universidade Federal De Goiás, Brazil- Completed