

CURRICULUM VITAE

PERSONAL INFORMATION

NAME: DR. JUMA GERALD, BSc, MSc, Ph.D
MARITAL STATUS: MARRIED
NATIONALITY: KENYAN
DATE OF BIRTH: MARCH, 1972
RELIGION: CHRISTIAN

CONTACT ADDRESS

C/o Department of Biochemistry
P.O. Box 30197-00100
Nairobi
Tel: +254 020- 4442841
Mobile: +254-0722-600922
Email: gjuma@uonbi.ac.ke

ACADEMIC BACKGROUND

2010: PhD- (BIOCHEMISTRY), JKUAT- Kenya
2005: M.Sc- (BIOCHEMISTRY), JKUAT- Kenya
1998: B.Sc (Hons) - (BIOCHEMISTRY & CHEMISTRY), JKUAT – Kenya

CURRENT EMPLOYMENT/ DUTIES

Lecturer- Department of Biochemistry - College of Health Sciences University of Nairobi
Co-ordinator -Medical laboratory Sciences and Technology and MSc Nursing – UoN
Chief executive officer: Clinical Industrial and Biochemical Consultancy (CIBCU) unit

AWARDS

2013: Research grand (Kshs 900, 000) for the development of simple and inexpensive kits for the diagnosis of typhoid fever in patients infected with salmonella typhi

2012: Research grand (Kshs 250, 000) for the development of simple and inexpensive kits for the diagnosis of Salmonella infections: Deans Committee Grand – University of Nairobi.

2006-2009 IRD/ICIPE Doctoral research grant:

Lepidopteran Insect-Plant Associations: Evaluated the basis of host recognition and acceptance and the relevance of host plant biochemical cues to host affiliation by *Busseola fusca* larvae. Further investigated the genetic sub-structuring of *B. fusca* populations relative to host plant use.

2003-2005 IRD/ICIPE Research grant (Master degree course): Lepidopteran Insect-Plant Associations: Role of plant metabolites in host selection and oviposition by *Busseola fusca* (Fuller) (Lepidoptera: Noctuidae). In-depth study of plant volatile and surface metabolites of selected host plants that mediate location and oviposition of gravid moths.

1994-1998: Kenya government scholarship (B.Sc degree course).

CURRENT RESEARCH ACTIVITIES

1. Research on the development of simple and inexpensive assay techniques for the diagnosis of various bacterial diseases
2. Research on emerging diseases of public concern focusing on Environmental toxin and human reproduction
3. Research on the interactions between *Busseola fusca* (Lepidopterous stemborer) and Gramineaceous host plants: Role of plant biochemical and physical cues in feeding and oviposition behaviour and the genetic sub-structuring of larval populations in relation to host use.

KEY RESEARCH TECHNIQUES AND METHODS AT DISPOSAL

Gas Chromatography (GC); Gas Chromatography-Mass Spectroscopy (GC-MS); Gas Chromatography-Electroantennograph Detection (GC-MS- EAD); High Pressure Liquid Chromatography (HPLC), Molecular techniques - RNA/DNA isolation, PCR, Protein purification techniques-Electrophoresis, Absorption spectroscopy Techniques, Bioassays, Proposal write up, execution and data management.

FUTURE RESEARCH INTERESTS

Development of simple and inexpensive diagnostic kits for bacterial diseases. Research on emerging diseases of public concern focusing on Environmental toxin and human reproduction; Bio-prospecting of medicinal plants; Molecular and cell biology; DNA and RNA labelling, purification and analysis, cDNA synthesis, nucleic acid amplification and detection methods including PCR, Use of RNA and DNA fingerprinting techniques for species identification and screening. Northern and southern blotting techniques, DNA sequencing,

bioinformatics tools, cell and Applied clinical works including tissue culture techniques, ELISA, flow cytometry, in vitro human liver culture systems tissue engineering technologies and bioremediation by biotechnology.

TEACHING EXPERIENCE

Teaching: Nine years in tertiary institutions and 9 years in the university.

Academic supervision:

Successfully supervised 4 undergraduate students in their respective projects.

Currently supervising 5 postgraduate masters students and 2 Ph.D students

Publications

1. Juma G., M. Thiongo, L. Dutaur, K. Rharrabe, F. Marion-Poll, B. LeRu, G. Magoma, J.-F. Silvain, and P.-A. Calatayud, (2012). Two sugar isomers influence host plant acceptance by a cereal caterpillar pest. *Entomologia Experimentalis et Applicata* 128: 93-98
2. Juma, G., Chimtawi, M., Ahuya, P.O., Njagi, P.G.N., Le Ru, B., Magoma, G., Silvain, J.-F. & Calatayud, P.-A. (2008). Distribution of chemo- and mechanoreceptors on the antennae and maxillae of *Busseola fusca* larvae. *Entomologia Experimentalis et Applicata* 128: 93-98.
3. M. Obonyo, F. Schulthess **G. Juma**, B.D. Wanyama, B. Le Rü and P.-A. Calatayud, (2008). Location, acceptance and suitability of lepidopteran stemborers feeding on a cultivated wild host-plant to the endoparasitoid *Cotesia flavipes* Cameroon (Hymenoptera: Braconidae). *Biological Control* 45: 36-47.
4. P.-A. Calatayud, **G. Juma**, P. G. N. Njagi, N. Faure, S. Calatayud, S. Dupas, B. Le Rü, B. Frérot, G. Magoma and J.-F. Silvain, (2008). Differences in mate acceptance and host plant recognition between wild and laboratory-reared *Busseola fusca* (Fuller). Mate acceptance and oviposition in wild and laboratory-reared *Busseola fusca* (Fuller) (Lepidoptera: Noctuidae). *Journal of Applied Entomology* 132: 255-264.

INTERNATIONAL CONFERENCES ATTENDED AND PAPERS PRESENTED

1. **March 2014:** A five day Training workshop on research and project grant proposal writing organised by University of Nairobi enterprise and services limited at Chiromo conference centre, University of Nairobi.

2. **September, 2013.** Proposal writing workshop for the International Mixed Laboratory "Climate and Agroecosystem Resource in East Africa" (CLAREA). School of Physical Sciences, University of Nairobi, Chiromo campus. Conference organised by IRD-East Africa and its partners in East Africa
3. **February (2008):** Presented a paper on Antennal gustatory sensilla of *Busseola fusca* (Lepidoptera: Noctuidae) larvae potentially involved in host plant evaluation. *Arusha - Tanzania*. Semio-08 Meeting:
4. **July-August 2007:** Presented a poster on the Distribution of chemo- and mechanoreceptors on the antennae and maxillae of *Busseola fusca* (Lepidoptera: Noctuidae) larvae. *Uppsala- Sweden*. 13th Symposium on insect-plant relationships (SIP 13):
5. **October 2005:** Presented results on Differences in ovipositional responses between wild and laboratory-reared *Busseola fusca* (Lepidoptera: Noctuidae).

ICIPE: International conference on lepidopterous cereal stemborers in Africa.

REFEREES

Prof. Gabriel Magoma
 Professor of Biochemistry
 JKUAT
 P.O Box 62000-00200
 NAIROBI.
Mobile No. 0722565823

Mrs Elizabeth Ambani
 Chair- Dept of Nursing KU
 P.O Box 43844.
 NAIROBI
Mobile No. 0733772397

Prof. . P. K Kinyanjui
 Chairman -Biochemistry Dept,
 University of Nairobi,
 P.O. Box 30197-00200
 NAIROBI.
Mobile No. 0722394442

Dr. Isaac Mwanzo
 Chair -Dept of Public Health-KU
 P.O Box 43844,
 NAIROBI.
Mobile No. 0729932026