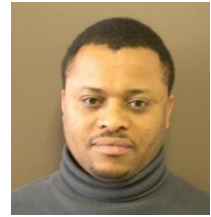


Dr. Joseph Mwafaida MGHALU

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**Education:**

Ph.D. (Agricultural Sciences - Plant Pathology), Gifu University - Japan, 2007.
M.Sc. (Agricultural Sciences – Plant Protection), Gifu University - Japan, 2004.
B.Sc. (Horticulture), Egerton University –Kenya, 1993

Areas of Interest

- Microbial Science with key interests in bio-prospecting on beneficial micro-organism and their application in bio-production and bio-remediation.
- Bio-fungicide development focusing on microbe-microbe and sediment microbe-plant signal systems and their practical applications in pest control.
- Utilization of beneficial soil, aquatic and marine microbes that can rapidly biodegrade wastes into non-toxic and natural elements with regard to bio-remediation for oil spills, marine paints, and other issues associated with maritime activities and coastal and marine gas and oil exploration.
- Recent projects include efficient garbage management utilizing effective microbes to biodegrade organic wastes into bio-fertilizers for aquaculture-agriculture integration;
- Isolation and characterization of Epibiotic bacteria co-existing with *Lyngbya majuscula* (marine cyanobacterium);
- Application of florescent pseudomonads in control of damping-off disease in horticulture; Isolation of beneficial microbes from vetch grass.

Work experience

1993: Ministry of Agriculture. Crop Officer: Tana Delta, Kenya

1995: Ministry of Agriculture. Divisional Agricultural Extension officer, Bura Tana, Kenya

1997: Kilifi Institute of Agriculture, Department of Agriculture, Lecturer

2008: Pwani University, Department of Agriculture, Chairman

2010: Pwani University, Department of Biological Sciences, Chairman

Publications and Conference Presentations**Conference presentations and proceedings**

1. **Mwafaida J. M. 2012.** Effect of saline irrigation water on a tomato crop. Sustainable Horticultural Production in the Tropics. In Horticultural Society of Kenya 12th Annual Conference proceedings, Pwani University, 4-7th December, 2011.
2. **Mwafaida J. M. 2011.** Efficient garbage management through biofertilizer development, Proceedings, Annual Conference for Research and Innovations, National Council for Science and Technology, KICC, Kenya, May 2011.
3. **Mwafaida J. M. 2011.** Biofertilizer development and its application in horticulture. Horticultural Society of Kenya 11th Annual Conference proceedings, Pwani University, 7-10th December, 2011.
4. **Mwafaida J Mghalu. 2010.** Bacteria and Fungi in sustainable Agriculture, USAID Biosafety and Biotechnology Workshop, PCEA WOGECT Centre, Mombasa **October, 2010.**
5. **Mwafaida J. M. and Mitsuro Hyakumachi. 2010.** Dynamics of *Trichoderma* spp. in lectin inoculated soils, Proceedings, Conference for National Council for Science and Technology, KICC, Kenya, May 2010

6. **Mwafaida J. M** and Mitsuro Hyakumachi. **2009**. Biological Control of damping off disease in cruciferous vegetables. Value Chains of Vegetables for local market, export and processing. In Horticultural Society Of Kenya 9th Conference proceedings, Snowcrest Hotel, Arusha, 2-5th December, 2009.
7. **Mwafaida J M** and Mitsuro Hyakumachi. 2008. Suppression of radish damping-off disease through soil amendments with fungal lectins. Proceedings of 11th Biennial Conference, Nairobi, Kenya.
8. **Mwafaida J M** and Hyakumachi M. **2006**. Lectins from *Rhizoctonia* spp and their possible Industrial applications. Proceedings of 2006, Feedforth International Research Colloquium Nagoya, Japan.
9. **Mwafaida J M** and Mitsuro Hyakumachi. **2007**. Artificial induction of radish damping off disease. Proceedings of the 2007 Feedforth International Research Colloquium, Nagoya, Japan.
10. **Mwafaida J Mghalu**, Masashi Horibe, Mayumi Kubota, Hirokazu Kawagishi and Mitsuro Hyakumachi, Lectins in binucleate *Rhizoctonia* species. Phytopathology 96, S 79, July 2006.

Publications

1. Nyaboga Nyarieko Mwafaida Mghalu Paul Guyo Mwandogo Chigodi. 2016. **Screening for Bioactivity of Phytochemical Extracted from Acacia stuhlmannii Against Ralstonia solanacearum. Journal of biology, Agriculture and Health care, Vol 6, No. 16, 2016.**
2. **Mwafaida J. Mghalu** and Mitsuro Hyakumachi. **2009**. Suppression of radish damping-off disease through soil amendments with fungal. The 11th KARI Biennial Scientific Conference, KARI headquarters, Nairobi, 10– 14 November 2008. <http://www.kari.org/fileadmin/publications/conference11>
3. **Mwafaida J M**, Masashi H, Kubota M, Kawagishi H, and Hyakumachi M. **2007**. Isolation and characterization of lectins from the AG-D group of binucleate *Rhizoctonia* species. Journal of General Plant Pathology, 73:229-234.
4. **Mwafaida J M**, Takashi, T, Kubo N, Kubota M, and Hyakumachi M. **2007**. Selective accumulation of *Trichoderma* species in soils suppressive to radish damping-off disease after repeated inoculations with *Rhizoctonia solani*, binucleate *Rhizoctonia* and *Sclerotium rolfsii*. Journal of General Plant Pathology, 73:250-259.
5. Toshihiro Hayakawa, Takeshi Toda, Ping Qu, **Joseph M. Mghalu**, Shigeru Yaguchi and Mitsuro Hyakumachi. **2006**. A new subgroup of *Rhizoctonia* AG-DII, obtained from Japanese Zoysia grass exhibiting symptoms of a new disease. Plant Disease Vol. 90 No. 11 pg 1389-1394. November 2006.
6. **Mwafaida J. Mghalu**, Yuka Kobayashi, Hirokazu Kawagishi and Mitsuro Hyakumachi. **2004**. Lectin variation in members of *Rhizoctonia* species. Microbes and Environment, vol. 19, 227-235. March 2004.
7. Takeshi Toda, **Joseph M. Mghalu**, Achmadi Priatmojo and Mitsuro Hyakumachi. **2004**. Comparison of sequences for the internal transcribed spacer region in *Rhizoctonia solani* AG-IID and other subgroups of AG-1, vol. 70, 270-272. January 2004

Books/Book Chapters

1. **Mwafaida J. Mghalu** and Mitsuro Hyakumachi. **2003**. Characteristics of fungal lectins and their possible roles; In, Recent research developments in Mycology, Vol. 1, 23-35. Nov. 2003.

Graduating Theses

1. Kimaru Angela Wairimu, Maarifa Mwakumanya, **Mwafaida Mghalu (2017)**. The potential of seagrass litter as organic fertilizer, Pwani University, Kenya.
2. Dzame C. N, **Mwafaida J. M**, Mburu, D. M. **(2017)** Evaluation of UV-resistance and phylogeny of epibiotic bacteria co-existing with the Kenyan marine *Lyngbya majuscula*. Msc Thesis, Pwani University, Kenya
3. Nyarieko N. G., **Mwafaida J. M**, Mwashimba P. G. **(2016)**. Evaluation of Acacia Stuhlmanii plant extracts for their efficacy on management of bacterial wilt of tomato caused by *Ralstoia solanacearum*. MSc. Thesis, Pwani University, Kenya.
4. Charles Mazereku, **Okoth S, Ochanda J, Mwafaida J.M. (2011)** Evaluation of *Trichoderma* enhanced fertilizers on growth of common beans (*Phaseolus vulgaris*). Msc Thesis university of Nairobi, Kenya

Research Work

1. Commercialization of Eggplant Puree: NACOSTI funded: **Dr. Mwafaida Mghalu** and Ms. Emma Muthoni: July 2013 (current)
2. Biofertilizer trials (BIOMAX®) Kenya Bixa Ltd and Pwani University: Dr. Hemedi Saha, Dr. **Mwafaida Mghalu** and Mr. Biryanda Ndiso, Mr. Chris Ojwang and Mr. Noah Kaikai: Sept 2013
3. **Somtux Maize Purification Program: FAO/TOTOTO farm Kilifi collaboration.** A FAO-Somalia funded project to purify and screen Somtux Maize basic seed for Somalia. **2010-2013 Feb.**
4. **Biofertilizer Project. Pwani University, Kilifi.** A National Council for Science and Technology funded project with the aim of efficiently and effectively manage garbage, **2009-2010.**
5. **A post doctoral program with Sietecs Gifu Limited, Japan.** Bio-fungicide development using *Trichoderma* spp against soil borne plant pathogen. Commercial venture; Application of EM agents to clean and maintain architectural structures against green moulds, **2007.**
6. **Lectins in *Rhizoctonia* species and their distribution in *Rhizoctonia* fungi. Gifu University Japan.** Assessment of lectins as signal/recognition component in fungi-fungi and fungi-plant interactions, **2001-2007.**
7. **Integrated Pest Management Control, Plant Pathology Laboratory, (2000) Kobe University, Japan.** A JICA funded project on integrated pest management (IPM) Evaluated antagonistic *Pseudomonas* fluorescent and *P. putida* as models to control *Fusarium oxysporum* and *Ralstonia solanacearum* in tomato.

Graduate Research and Supervision

MSc Research Supervision

1. **Charles Mazereku: (2011) Evaluation of *Trichoderma* enhanced fertilizers on growth of common beans (*Phaseolus vulgaris*)**
2. **Constance Nyiro: (2011) Phylogenetic characterization of epibiotic bacteria associated with the Kenya marine *Lyngbya majuscula***
3. **Simon Mugi; (2011) Biocontrol of damping-off disease in vegetables using fluorescent bacteria**
4. **Mwandogo O. Chigodi: (2011) Isolation and characterization of active antipneumonic compounds of *Acacia stuhlmannii***
5. **George Nyaboga Nyarieko: (2012) Efficacy trials of *Acacia stuhlmannii* plant extracts on bacterial wilt of tomato caused by *Ralstonia solanacearum***
6. **Alexander B.A.M. Kinyoda: (2012) Evaluation of *Croton jathrophoides* (Msinduzi) extract as a suppressant against *Fusarium oxysporum* F. Sp *lycopersici* in tomatoes**
7. **Dorothy A. Silas: (2012) Sex determination in papaya based on colour trait**
8. **Angela Wairimu: (2012) Efficacy of seagrass biofertilizer on the performance of leafy vegetables in the lower Coastal zone.**

PhD research supervision

9. **Jolly Prajat: (2014) Plant biodiversity and their ethno botanical applications in selected Kaya forests of Kilifi County**
10. **Luciana Jumwa Sanzua: (2014) Optimization of greenhouse farming in the hot humid coastal region of Kenya**

Affiliations

1. **Vice Chairman:** Horticultural Association of Kenya (HAK)
2. **Member:** American Phytopathological Society

Community Participation

1. **Member: RARE investment Association:** Community based Organization composed of professionals from Kilifi. Interested in estate development, Applied Research and Social development activity in Kilifi

2. **Chairman**, BOG: St Patrick's Catholic Academy, Kilifi.