

CURRICULUM VITAE

DR. Nkatha Gacheri Muriira, B.Sc., M.Sc., Ph.D.

Department of Botany

Phone: +254-0735105380/0740745388

Maseno University, Kisumu-Busia Road

Email: gnkatha@maseno.ac.ke or gacherink2012@gmail.com

P.O. Box 333-40105,

Maseno, Kenya

EDUCATION

2014-2018: University of Chinese Academy of Sciences, China, PhD Botany (Research Biotechnology).

2007–2012: Kenyatta University, Master of Science in Biotechnology

2002–2006: Kenyatta University, Bachelor of Education science (Biology)

1997–2000: Egerton University, Diploma in Agricultural Education and Extension

1992-1995: Maua Girls Secondary, Kenya Certificate of Secondary Education (KCSE)

1984-1991: Nthimbiri primary School, Kenya Certificate of Primary Education (KCPE)

RESEARCH EXPERIENCE

My research interest is in the use on biotechnology tools in conservation and restoration of biodiversity through genetic resource harnessing of food and non-food crops thus improving food security, poverty reduction and mitigating climate change. I am also interested in wild medicinal plants identification, phytochemical analysis and sustainable utilization.

My Previous research was in Genetic and epigenetic diversity and differentiation of wild fibre producing Genus *Calotropis* with potential for a new cottage industry for fibre in arid and semi-arid areas. I also carried out research on the impact of domestication on genetic diversity of *Warbugia ugandensis* a medicinal plant that is highly exploited for its products.

TEACHING EXPERIENCE

Lecture at Maseno University Department of Botany.

Teaching the following units: Gymnosperm and Angiosperm Taxonomy, Introductory plant systematics, Survey of Plant Kingdom, Palynology and Biosystematics, Bryology and Pteridology, plant molecular biology, Trends in Biotechnology, Biotechnology, Advanced microbial biotechnology, Biochemical and molecular genetics.

- I am also involved in supervision and mentorship of undergraduate and postgraduate students in their research work.
- I have also examined thesis as internal examiner and presented the school in postgraduate oral defense.

Part-time Lecturer at Kenyatta University, Department of Plant and microbial sciences, Department of Biochemistry and Biotechnology January 2013 to September 2019; Teaching undergraduate course namely; Introduction to Molecular biology, microbial biotechnology, Microbial Genetics, Quantitative genetics, Introduction to genetics, Plant cell and tissues culture, Biochemistry of micro-organisms, Plant morphology and anatomy, Fermentation technology.

Part-time Lecturer at Kenya Methodist University, April 2013

Taught three undergraduate courses namely; Cytogenetics and Molecular Biology, Biotechnology and development.

Part-time Lecturer at Technical University of Kenya, May 2013 to May 2014. Taught three undergraduate and diploma courses namely; Plant Biotechnology, Principles of Biotechnology, Principles of Biotechnology, Introduction to Biotechnology. Class size ranging from 18-50 students.

Part-time Lecturer at Machakos University September 2018 to December 2020: Teaching undergraduate course namely; Cell Biology and Genetics, General Genetics, Introduction to Biotechnology, Plant morphology and Anatomy, Plant morphogenesis and developmental anatomy, Plant function, Taxonomy of higher plants, Introduction to plant pathology and Applied Ecology. Class size ranging from 15 to 150 students.

Teachers service commission: Teacher of Biology and Agriculture at Muguga wa Gatonye Secondary from January 2018 to March 2021; Rev Musa Gitau Secondary September 2009 to 2014, Kahuguini Secondary October 2001 to July 2007.

HONORS AND AWARDS

- University of Chinese Academy of Sciences Scholarship, September 2014 to December 2017.
- Awarded a Higher Education Loan Board (HELB) partial scholarship for PhD, 2013
- Awarded a fellowship by World Agroforestry Centre (ICRAF) for Masters Research 2009-2011. Graduate Fellow-Carry out research on the Impact of forest fragmentation and Domestication on Genetic Diversity of *Warburgia ugandensis*.
- Awarded a Higher Education Loan Board (HELB) partial scholarship for Masters 2007/2008-

2008/2009 Academic year.

PROFESSIONAL MEMBERSHIP

African Women for Biosciences

SKILLS AND TRAINING

- 2007– Attended IEBC training on election and voting process at Kenya Science.
- 2009-2012 Statistical software's for analysis e.g. POPGENE, GENALEX.
- 2009-Proficient in MS–Word/Excel and PowerPoint computer skills and good writing skills.
- 2013- Attended IEBC training on election and voting process at Kinyanjui Primary for Presiding officers.
- 2015-Writing workshop **27-28 Aug 2015** Kunming Institute of Botany.
- 2016-Metabarcoding school, **22-26 August 2016** Kunming institute of Zoology, China

LEADERSHIP EXPERIENCE

- Year 2021-Chairlady, Department Course Restructuring and Brochure Committee, Botany department, Maseno University.
- Year 2021 - Member of Committee for development IT Courses development SPBS and School of Agriculture cluster

CONFERENCES AND WORKSHOPS

- **9-13 July 2018**-British Council Research Links Workshop; Breeding and modeling underutilized crops for community resilience, Pietermaritzburg, South Africa.
- **20-22 September 2017**-Tropentag2017 conference, University of Bonn Germany
- **1-4 March 2016**-Mountain Futures Conference, Seeds of Anthropocene,
- **22-26 August 2016**- Metabarcoding school, Kunming institute of Zoology, China
- **11-13 July 2015**-Workshop of Young Scientists on Biodiversity and Conservation Biology in Southwest China: Advances in Conservation Genetics, Kunming Institute of Botany.
- **27-28 Aug 2015** -Writing workshop,Kunming Institute of Botany.
- **21 Dec 2014**-Forum for Young Women scientists and engineers in developing countries, Chinese Academy of Engineering.
- , **October 9 – 13, 2011**-1st VicRes Biennial Forum, Commonwealth Speke Resort Munyonyo, Uganda.

- In-service Training for Secondary Mathematics and Science Teachers organized by Ministry of Education, Science and Technology at Maryhill High School, **June 2007** and Kirangari secondary school, **April 2010**.

PUBLICATIONS

- **Muriira Nkatha G**, Yuan min, Muchugi Alice, Xu Jianchu and Liu Aizhong (2018). Genetic Diversity Analysis Reveals Genetic Differentiation and Strong Population Structure in *Calotropis* Plants. *Scientific Reports*.
- **Muriira Nkatha G**, Xu Wei, Muchugi Alice, Xu Jianchu and Liu Aizhong (2015). *De novo* sequencing and assembly analysis of transcriptome in the Sodom Apple (*Calotropis gigantea*). *BMC Genomics*, 16:723.
- **Nkatha Gacheri M**, Bramwel Wanjala, Ramni Jamnadass and Alice Muchugi (2016). Analysis of the impact of domestication of *Warburgia ugandensis* (Sprague) on its genetic diversity based on amplified fragment length polymorphism. *African Journal of Biotechnology* , DOI: 10.5897/AJB2016.15282

CONFERENCE PAPERS AND POSTERS

- Alice Muchugi, Agnes Gachuri, **Nkatha Gacheri**, Festus Mutiso, Jacinta Kimiti, Ramni Jamnadass and Jianchu Xu. *Calotropis procera*: A New Investment for African Drylands. **Tropentag2017 conference, 20-22 September 2017**.
- **Muriira et al. (2015)**. *De Novo* sequencing and assembly analysis of transcriptome in Sodom apple (*Calotropis gigantea*), a fiber producing wild shrub. Workshop of Young Scientists on Biodiversity and Conservation Biology in Southwest China: Advances in Conservation Genetics, 11-13 July 2015.
- **Muriira N.G et al. (2011)**. Comparing Genetic Diversity of On-farm and Natural Forest *Warburgia ugandensis* populations in East Africa. A poster Presented at the 1ST VicRes Biennial Forum in Uganda.
- **Muriira N.G et al. (2010)**. Impact of forest fragmentation and Domestication on Genetic Diversity of *Warburgia ugandensis* in Lake Victoria Region. A poster presentation at the World Agroforestry science week.