ENOCH NG'OMA
Postdoctoral Fellow

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EDUCATION

12/2009 – 09/2013	Dr. rer. nat. Genetics. Friedrich-Schiller University Jena, Germany. Advisor: Alessandro Cellerino; Dissertation: Identification of gene loci responsible for age-related pathologies in natural populations of the short-lived fish *Nothobranchius furzeri*.
01/2004 – 01/2006	MSc. Evolution and Biodiversity, University of Oslo, Norway, Advisor: Brita Stedje; Dissertation: Genetic diversity and population structure in the African Pencil Cedar, *Juniperus procera* (Cupressaceae), East Africa.
01/1996 – 09/2000	BEd. (Science), University of Malawi – Biology major, Organic Chemistry minor. Dissertation Advisor: Daniel Jamu; Title: Influence of *Tilapia* escapees from fishponds on stream fish species composition and water quality in the Mpira Stream in Malawi. Teaching Advisors: Martin Gulule, and Nellie Mbano.

POSITIONS HELD

01/2015 – present	Postdoctoral Fellow, Division of Biological Sciences, University of Missouri, Columbia. Project: Coordinating nutrition and energy allocation: mechanisms and evolution Advisor: Elizabeth G. King
08/2007 – 01/2009	Lecturer in Genetics. Department of Biology, Chancellor College, University of Malawi, Zomba, Malawi
03/2006 – 07/2007	Regional Officer for Southern Africa, Plant Resources of Tropical Africa (PROTA), Zomba, Malawi
08/2001 – 07/2007	Scientific Officer, National Herbarium & Botanic Gardens of Malawi, Zomba, Director: Augustine Chikuni

02/2000 – 07/2001 High School Biology Teacher, Likangala Secondary School, Zomba, Malawi Ministry of Education

PUBLICATION METRICS

Google Scholar: https://scholar.google.com/citations?user=58aTNpUAAAAJ&hl=en
Total Citations: 168
h-index: 6

REFEREED PUBLICATIONS

1. **Ng'oma E,** Williams-Simon PA, Rahman A and King EG. (In Press). Diverse biological processes coordinate the transcriptional response to nutritional changes in a Drosophila melanogaster multiparent population. *BMC Genomics*; bioRxiv, doi: https://doi.org/10.1101/712984
2. Williams-Simon PA, Posey C, Mitchell S, **Ng'oma E**, Mrkvicka JA, Zars T and King EG. (2019). Multiple genetic loci affect place learning and memory performance in Drosophila melanogaster. *Genes, Brain and Behavior*. https://doi.org/10.1111/gbb.12581.
3. **Ng'oma E**, King EG, Middleton, KM. (2018). A model-based high throughput method for fecundity estimation in fruit fly studies. *Fly*. doi.org/10.1080/19336934.2018.1562267
4. **Ng'oma E**, Fidelis W, Middleton, KM & King EG. (2018). The evolutionary potential of diet-dependent effects on lifespan and fecundity in a multi-parental population of *Drosophila melanogaster*. *Heredity*. doi.org/10.1038/s41437-018-0154-2
5. **Ng'oma E,** Perinchery, AM & King, EG. (2017). How to get the most bang for your buck: the evolution and physiology of nutrition-dependent resource allocation strategies. *Proceedings of the Royal Society B* 284: 20170445.
6. Stanley, PD, **Ng'oma, E**, O'Day, S & King, EG (2017). Genetic dissection of nutrition-induced plasticity in insulin/insulin-like growth factor signalling and median life span in a *Drosophila* multiparent population. *Genetics* 206(2): 587-602. ***Featured article:** Population, Evolutionary, and Quantitative Genetics Conference, Madison, WI. May 2018.
7. Moyo GG, **Ng'oma E** & Kalindekafe MP (2016). Impact of wild animals and anthropogenic activities on survivorship and abundance of *Raphia farinifera* in Naiwale and its two co-joining streams in Thondwe, Malawi. *International Journal of Current Research* 8(12): 42686-42693.
8. **Ng'oma E**, Groth M, Ripa R, Platzer M & Cellerino A (2014). Transcriptome profiling of natural dichromatism in the annual fishes *Nothobranchius furzeri* and *N. kadleci*. *BMC Genomics* 15:754.
9. **Ng'oma E**, Reichwald K, Dorn A, Wittig M, Balschun T, Franke A, Platzer M and Cellerino A. (2014). The age-related markers lipofuscin and apoptosis show different

genetic architecture by QTL mapping in short-lived Nothobranchius fish. *Aging* 6(6):468-480.

10. Terzibasi Tozzini E, Dorn A, **Ng'oma E**, Polaik M, Blaek R, Reichwald K, Petzold A, Watters B, Reichard M, & Cellerino A (2013). Parallel evolution of senescence in annual fishes in response to extrinsic mortality. *BMC Evolutionary Biology* 13: 77.
11. **Ng'oma E**, Valdesalici S, Reichwald K, & Cellerino A (2013). Genetic and morphological studies of *Nothobranchius* (Cyprinodontiformes) from Malawi with description of *Nothobranchius wattersi* sp. nov. *Journal of Fish Biology* 82(1): 165-188.
12. **Ng'oma E**, Dorn A, Janko K, Polačik M, Platzer M, Reichwald K, Cellerino A, & Reichard M (2011). Phylogeny, genetic variability and colour polymorphism of an emerging animal model: the short-lived annual fish *Nothobranchius furzeri*. *Molecular Phylogenetics and Evolution* 61(3): 739-749. **(*Shared authors**)
13. Jamu DM & **Mlangeni* E** (2001). Influence of *Tilapia* escapees from fishponds and pond sitting on stream fish species composition and water quality in the Mpira Stream, Zomba District, Malawi. *Malawi Journal of Science and Technology* 6: 57-64. *In 2007 I legally re-arranged names through Office of President & Cabinet in Malawi.

BOOK CHAPTERS

1. Msekandiana G & **Mlangeni* E** (2002). Malawi. In: J.S. Golding (ed.), *Southern African Plant Red Data Lists*. Southern African Botanical Diversity Network Report No. 14: 31-42. SABONET, Pretoria. *In 2007 I legally re-arranged names through Office of President & Cabinet in Malawi.

GRANTS, AWARDS AND FELLOWSHIPS

2019 First Place. National Postdoc Appreciation Week, NPAW 2019 Poster Awards, University of Missouri, Columbia, MO, September 2019.
2017 Douglas D. Randall Young Scientist Travel Award, University of Missouri, Columbia
2017 Postdoctoral Association Travel Award, University of Missouri, Columbia, March 2017
2012 International Travel Grant, Leibniz Graduate School on Aging (LGSA), Jena, Germany. Statistical Genetics Workshop, UCLA, CA, June 2012.
2010 Leibniz Graduate School on Aging (LGSA) Training award (€780.00), Jena, Germany. "*Regression models as a tool in medical research*", April 8 – June 23, 2010, University of Freiburg, Germany
2003 - 2004 Research Grant, National Research Council of Malawi (NRCM, MK300,000.00). "Distribution, use and potential commercial value of *Mondia whytei* in southern Malawi"
2001 Earthwatch Organization Fellowship, Wechiau Community Hippo Sanctuary Conservation Baseline Study, Wa, Ghana (Sanctuary officially established in 2004)
2000 Tropical Biology Association (TBA) Fellowship, Taita Discovery Center & Elsamere Conservation Centre, Kenya.

2000 Outstanding student field project award (Prize British £80.00), Tropical Biology Association, Kenya. "The role of water hyacinth in the diversity and abundance of macro-invertebrates in the Lake Naivasha ecosystem."

TEACHING EXPERIENCE

2019 Guest lecture, Evolution and Ecology (BIO3400), University of Missouri, Columbia
2018 Guest lecture, Evolution and Ecology (BIO3400), University of Missouri, Columbia
2007 –2009
Lecturer, Genetics (BIO410), Chancellor College, University of Malawi, Zomba
Lecturer, Introduction to Evolution, Chancellor College, University of Malawi, Zomba
2008 Lecture series: Renewable energies, MSc. Environmental Science (MES) Chancellor College, University of Malawi
2000 – 2001
Teacher, High School Biology, Likangala Secondary School, Zomba, Malawi
2000 Teaching practice. In partial fulfilment of B.Ed degree, Chancellor College, University of Malawi, Zomba, Malawi

INVITED PRESENTATIONS

1. **Ng'oma E** and Cellerino A. Genetic mapping of tail colour and age-related phenotypes in *Nothobranchius* spp. First International Nothobranchius Symposium. Pisa, Italy. February 2014.
2. **Ng'oma E** and Cellerino A. Genetic mapping of tail colour and age-related phenotypes in *Nothobranchius* fishes, Max Planck Institute for Biology of Ageing, Cologne, Germany. 2013.

PRESENTATIONS

1. **Ng'oma E**, Stanley PD, O'Day S, Williams-Simon PA, Rahman, A and King EG. Diverse biological processes coordinate resource allocation responses to nutritional changes in *Drosophila melanogaster*. The 2nd annual Symposium on the Evolutionary Genomics of Adaptation. UNVEIL. University of Nebraska-Lincoln. October 2019.
2. **Ng'oma E**, Rahman A, Williams-Simon PA, King EG. Differential gene expression and co-expression analysis of nutrition-dependent effects in a multiparent *Drosophila* population. National Postdoc Appreciation Week (NPAW) 2019. University of Missouri, Columbia. September 2019.
3. **Ng'oma E**, Rahman A, Williams-Simon PA, King EG. Differential gene expression and co-expression analysis of nutrition-dependent effects in a multiparent *Drosophila* population. Gordon Research Conferences and Seminars (GRC & GRS). Manchester, NH. July 2019.
4. **Ng'oma E**, Rahman A and King EG. Transcriptional response of a multiparent population to adult nutritional change. Population, Ecology, and Quantitative

Genetics (PEQG), Genetics Society of America (GSA). Madison, Wisconsin. May 2018.

5. **Ng'oma E**, Cellerino A and King EG. Resource trade-offs: Life history evolution in fish and flies. ECOLUNCH Seminar Series, University of Missouri. April 2018.
6. King EG, Stanley, PD, **Ng'oma E**, and O'Day S. Genetic dissection of nutrition-induced plasticity in insulin/insulin-like growth factor signaling and median lifespan in a Drosophila multiparent population. Complex Trait Community. Memphis, TN. June 2017.
7. **Ng'oma E**, Middleton KM and King EG. Evolutionary potential of lifespan in response to dietary changes in *Drosophila melanogaster*. Society for the Study of Evolution. Portland, OR. June 2017.
8. King EG, Stanley, PD, **Ng'oma E**, and O'Day S. Genetic dissection of nutrition-induced plasticity in insulin/insulin-like growth factor signalling and median lifespan in a Drosophila multiparent population. Society for the Study of Evolution. Portland, OR. June 2017.
9. **Ng'oma E**, Perinchery A, Stanley PD, and King EG. Coordination of resource availability with allocation in a natural population: lifespan and its heritability across dietary regimes. Genetics Society of America, San Diego, CA. March 2017.
10. **Ng'oma E**, Perinchery A, Stanley PD, and King EG. Coordination of resource availability with allocation in a natural population: lifespan and its heritability across dietary regimes. Missouri Life Sciences Week. University of Missouri, Columbia. 2017.
11. **Ng'oma E**, Platzer M, and Cellerino A. New wine in old skin: classical and modern methods reveal the genetic basis of male dichromatism in annual killifishes. Society for the Study of Evolution. Austin, TX. 2016.
12. King EG, **Ng'oma, E**, Perinchery, AM, Stanley, P.D. The genetic basis of the coordination between resource allocation and resource acquisition in *Drosophila melanogaster.* International Quantitative Genetics Conference, Madison, WI, 2016.
13. **Ng'oma E**, Reed, M, Fidelis W, and King, EG (2016). The genetic basis of the coordination between nutrition and resource allocation in a synthetic population of *Drosophila melanogaster*. The Allied Genetics Conference (TAGC). Orlando, FL.
14. **Ng'oma E** and Cellerino A. From fish to flies: finding the genes for simple and complex traits. ECOLUNCH Seminar Series, University of Missouri. January 2016.
15. **Ng'oma E**, Reichwald, K, and Cellerino, A. Mapping quantitative trait loci (QTL) for ageing-related histological phenotypes in *Nothobranchius* fishes. Cold Spring Harbor Laboratory, NY. October 2012.
16. **Ng'oma E**, and Cellerino, A. Towards the genetic architecture of age-related dysfunctions and colouration in *Nothobranchius* species. German Genetics Society, Würzburg, Germany. 2011.

PROFESSIONAL ACTIVITIES

Review PLoS Genetics - July 2019 (independent), G3 - July 2015 (assisted)

Memberships Society for the Study of Evolution (SSE), Genetics Society of America (GSA), University of Missouri Postdoctoral Association, National Postdoctoral Association (NPA), Tropical Biology Association (TBA), Earthwatch Organization - Alumnus

Invited Interview Population, Evolutionary, and Quantitative Genetics Conference, Madison, WI. May 2018. ***GENETICS* Discussion 3.** Featured article: Genetic dissection of nutrition-induced plasticity in insulin/insulin-like growth factor signaling and median life span in a *Drosophila* multiparent population.

WORKSHOPS

1. Dee Fink Accelerated Learning Course Development Workshop (2015)
2. Statistical Genetics, University of California, Los Angeles (2012)
3. Regression Models, University of Freiburg, Germany (April – June, 2010)

MENTORING

Undergraduate, MSc. Students, and Research Assistants (*****Co-author,** **Independent project, *Research Assistant)

1. De'anne Donnell* 2019 - present
2. Jordyn Moaton** 2019 – present (IMSD Program, , University of Missouri)
3. Andrew Jones** 2017 – present (Discovery Fellow, University of Missouri)
4. Madison Steely* 2017 (Summer Research Experience, University of Missouri)
5. Samuel Smith** 2016 – 2018 (Honors Biology Project, University of Missouri)
6. Nick Weigers** 2016 (Honors Biology Project, University of Missouri)
7. Osvaldo Enriquez* 2015 – 2016 (Honors Biology Project, University of Missouri)
8. Wilton Fidelis*** 2015 – 2016 (EXPRESS Program, University of Missouri)
9. Elizabeth Jones* 2016 – present (Lab Technician, University of Missouri)
10. Aniqa Rahman*** 2015 – 2016 (Lab Technician, University of Missouri)
11. Michael Reed* 2015 – 2016 (Capstone Biology Project, University of Missouri)
12. Kyla Winford* 2015 – 2016 (EXPRESS Program, University of Missouri)
13. Anne Grindell** 2012 – 2013 Fritz Lipmann Institute on Aging
14. Gift B. Moyo*** 2009 – 2011 (MSc. Environmental Science, University of Malawi)
15. Henry Tembwe** 2007 – 2008 (BSc. Thesis, University of Malawi)

SERVICE AND OUTREACH

2006 – 2008 Advised a group of herbal healers to establish and maintain a medicinal plant garden, Zomba, Malawi

2006 – 2007	Vice Chairperson, Internal Procurement Committee, National Herbarium & Botanic Gardens, Malawi
10/2007	Organizer: PROTA International Workshop, Lilongwe Hotel, Malawi