# Dr Cameline Nafula Orlendo

Pure and Applied Mathematics Department      Phone: +254752918262
Maseno University, Kisumu-Busia Road      Email: cnafula@maseno.ac.ke
P.O. Box 333-40105,
Maseno, Kenya

## EDUCATION

PhD in Mathematics {2014-2019}, University of Glasgow (UoG), Glasgow, United Kingdom

Masters in Applied Mathematics {2012-2014, Maseno University, Kenya

Bachelor of Science in Mathematics {2005-2008}, Maseno University, Kenya

## RESEARCH EXPERIENCE

In my master's studies, I worked on network modelling of diseases whereby I examined generally, the effect of incorporating complexity using networks within the population-level framework provided by compartmental models. My main objective then was to understand network modelling of infectious diseases in general terms. For my PhD research I worked on a research problem that aimed to understand why a host species (lamb) mounts varied immune phenotypes against a nematode infection. I used evolutionary invasion analysis to examine my research problem and had four independent chapters examining the various aspects of the problem. I concluded that variations in immune costs could lead to hosts evolving varied immune responses towards an infection. I also brought to light that variations in immune costs, host maintenance efficiency and seasonal fluctuations in rainfall are a significant process in the evolution of host immune phenotypes. At the moment, I have just begun my post-doctoral career as a Lecturer at Maseno University, Kenya. Besides lecturing I am also on a research project on Modelling the Spatio-temporal risk of measles outbreaks and options for their control in Kenya through applications of Genomics and Modelling to the control of viral pathogens (GeMVi) East Africa Fellowship .

## TEACHING EXPERIENCE

Lecturing undergraduate courses including Basic Mathematics, Foundations of Applied Mathematics, Operation research, Numerical mathematics.

## HONORS AND AWARDS

1. Schlumberger Faculty of the future PhD fellowship.
2. Applications of Genomics and Modelling to the control of viral pathogens (GeMVi) East Africa Fellowship.

**PROFESSIONAL MEMBERSHIP**
1. Economic Society of Kenya, 2017
2. Edinburgh Mathematical Society
3. Society of Mathematical Biology, 2016
4. Protection of Vulnerable Groups (Scotland) Scheme


**SKILLS AND TRAINING**
1. Project management by the University of Glasgow, UK, 2016
2. Research skills by the University of Glasgow, UK, 2016
3. Interned at the University of Glasgow's School of Science Internships (2015).
4. Green Growth-Policy Measures and Implementation Tools, at the Weitz Center for Development Studies, Rehovot, Israel, (2014).
5. Project management by the Kenya Institute of Administration, Nairobi, Kenya (2013).
6. Citizen Participation and Accountability Course, offered by The Hague Academy, Hague, the Netherlands, (2013).
7. Leadership Skills, at the Kenyatta University's Regional Center for Capacity Development, Nairobi, Kenya (2013)
8. Results-Based Monitoring and Evaluation, at the Kenya Institute of Administration, Nairobi, Kenya (2013).
9. Gender Analysis and policy training by the Ministry of Planning and UNWOMEN, Kenya (2012).
10. Proficient in scientific, mathematical and statistical programming in MATLAB, Mathematica, Python, Latex, R, SPSS, STATA, C, C++ and PASCAL.

**LEADERSHIP EXPERIENCE**
2011 – 2014 – Head of Planning department in Kakamega County, Kenya.

**CONFERENCES AND WORKSHOPS**
1. Attended and presented my work at the at the 5th Strathmore International Mathematics Conference, Strathmore University, Nairobi, Kenya in 2019.
2. Attended and presented my work at the 2017 Mathematical Models in Ecology and Evolution Conference, held at the City University of London, United Kingdom.
3. Attended and presented my work at the 2017 Edinburgh Mathematical Society Postgraduate Meeting for Students, held in Edzell, United Kingdom.
4. Attended and presented my work at the 2016 Schlumberger Foundation, Faculty of the Future Forum held at the University of Cambridge, United Kingdom.

5.  Attended and presented my work at the 2016 European Society for Mathematical and Theoretical Biology, and the Society for Mathematical Biology Conference, held at the University of Nottingham, United Kingdom.
6.  Attended and presented my work at the 2015 Modelling Biological Evolution Conference, held at the University of Leicester, United Kingdom.

## PUBLICATIONS

Nafula, C and Cobbold, C (2020). Evolution of lamb immune phenotypes in a constant environment.  Journal of Theoretical Biology.