**Maaya Leonard Wafula**

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**PROFESSIONAL SUMMARY**

A statistician interested in contributing to solutions to health-related problems across the world. History of continuous knowledge seeking to advance the theoretical knowledge and practical application of statistics in medical research and pharmaceutical sectors.

**MOTIVATION FOR HTA BIOSTATISTICIAN POSITION**

MSD is a company whose work I admire a lot and that resonates with my objective of giving hope to patient futures. I am passionate about using my statistical skills while at MSD to help advance the company’s research and development needs.

**WORK EXPERIENCE**

**Statistician** July 2023 -

*ORSTAT, KU Leuven, Belgium*

* Provided statistical support to quantitative and non-quantitative clients
* Supported teaching of courses online by preparing material, coordinating and monitoring their availability
* Conducted research in support of requests from ORSTAT clients
* Participated in seminars, workshops and doctoral defenses for discrete choice models
* Part of the organizing team for the workshop on discrete choice models

**Statistician** June 2021 - May 2023

*Janssen Pharmaceutica, Beerse, Belgium*

* Performed simulation studies and sample size calculation
* Performed statistical analyses for process, method & equipment development
* Performed Bayesian analyses for process performance qualification
* Supported the compounding & dilution techniques for vaccines
* Provided statistical and programming expertise in equivalence studies
* Reviewed statistical methods
  + Design of experiments (Extended Youden Design)
  + Bayesian & double-bootstrap approaches for tolerance intervals
  + Probability-based equivalence tests
  + Bayesian & bootstrap approaches for the F2 statistic for analyzing dissolution profile similarity
* Conducted analyses to determine the shelf-life and stability of vaccines
* Performed Bayesian-based analyses for estimation and PoS determination
* Worked with and coordinated the work of CROs
* Contributed to the development of an internal R library for statistical analysis
* Wrote (and peer-reviewed) statistical reports (from colleagues)

**Statistician** January 2013 - October 2015

*Kenya Medical Research Institute - Wellcome Trust Program, Kilifi, Kenya*

* Contributed to scientific publications through statistical analyses
* Performed clinical, lab & epidemiological data management for five studies
* Wrote analysis plans (SAPs) & reviewed Standard Operating Procedures (SOPs)

**EDUCATION**

**PhD in Business Economics: Operations Research and Statistics** May 2021

*Katholieke Universiteit Leuven, Belgium*

*Topic: Modeling the Impact of Labels, the Dynamics in Attribute Non-Attendance and the Dropout in Discrete Choice Experiments*

**Master of Science in Statistics** August 2017

*Universiteit Hasselt, Belgium*

*Distinction*

**Bachelor of Science in Statistics** August 2012

*University of Nairobi, Kenya*

*First Class Honors*

**SEMINARS, WORKSHOPS AND CONFERENCE PRESENTATIONS**

**Scientific Research Network on Choice modelling,** *KU Leuven* September 2023

**Non Clinical Statistics Conference**, *Louvain-la-Neuve, Belgium* October 2022

Simulating the drug substance to drug product conversion process in vaccine manufacturing

**Second Doctoral Seminar** September 2020

Joint Analysis of Preferences and Dropout Data in Online Choice Experiments

**XIV. International Research Conference**, *Vancouver, Canada* August 2020

E-Consumers’ Attribute Non-Attendance Switching Behavior: Effect of Providing Information on Attributes

**First Doctoral Seminar** October 2019

Consumers’ Attribute non-attendance switching behavior in Discrete Choice Experiments

**Royal Statistical Society of Belgium** October 2019

E-consumers’ dynamic attribute non-attendance behavior: The effect of providing extra information on attributes

**WOG Workshop on Choice Modeling**, *Brussels* June 2019

E-consumers’ dynamic attribute non-attendance behavior: The effect of providing extra information on attributes

**12th Belgian Environmental Economics Day 2019**, *University of Antwerp* February 2019

Effect of environmental and altruistic attitudes on willingness-to-pay for organic and fair trade coffee in Flanders

**SHORT COURSES**

**Pharmalex** June 2021

Assay validation in JMP

**KU Leuven** June 2018

Optimal and Orthogonal Design of Experiments

**University of Leeds** June 2018

Choice Modelling and Stated Preference Design summer course

**University of Leeds** November 2017

Choice Modelling and Stated Preference Design winter course

**KEMRI-Wellcome Trust Research Program** November 2013

Good Clinical Practises - GCP2013

**COMPUTER SKILLS**

* **Statistics**
  + R, Python, SAS, JMP, STATA
  + WINBUGS/JAGS/STAN
  + HPC
* **Data Management**
  + SQL
  + FileMaker 11
* **Text processing & automation**
  + MS Word, MS PowerPoint
  + LATEX, R Sweave
  + R Markdown & R Shiny
* **Version control**
  + GIT

**SKILLS FOR THE HTA BIOSTATISTICIAN POSITION**

* Experience as a statistician in a pharmaceutical and medical setting
* Experience with survival analysis, Bayesian statistical methods, mixed models, multivariate methods and meta-analysis
* Experience in design of experiments
* Experience of programming in SAS and R
* Experience in effective visualization of data to non-statisticians
* Experience working in highly regulated environments: GxP, FDA, EMEA
* Experience working in ICH (for vaccines), ASTM (for small molecules) and SOP frameworks
* Knowledge of variance component & multivariate analyses for process control
* Long term passion to practice statistics within the pharmaceutical industry
* Liaising with other statistical programmers and statisticians on studies
* Understanding of Quality by Design thinking and Design Space methodology
* Generating web-based reports using the R-Shiny application
* Experience of working in multidisciplinary team settings
* Experience in designing and managing studies
* Experience working with and coordinating the work of CROs
* Excellent communication skills to quantitative & non-quantitative colleagues
* Strong academic performance and scientific publishing
* Willingness and ability to learn and apply newer statistical methodology

**LANGUAGES**

* English: Fluent
* French: Beginner
* Dutch: Beginner
* Swahili: Mother tongue

**RESEARCH INTERESTS**

* Biostatistics
* Health Technology Assessment (HTA)
* Discrete choice modelling for Health economics and HTA

**PUBLICATIONS IN INTERNATIONAL JOURNALS**

1. Maaya, Leonard, Meulders, Michel, and Vandebroek, Martina. Joint analysis of preferences and drop out data in discrete choice experiments. Journal of Choice Modelling 41.C (2021): 100308.
2. Maaya, Leonard, Meulders, Michel, and Vandebroek, Martina. Online Consumers’ Attribute Non-Attendance Behavior: Effects of Information Provision. International Journal of Electronic Commerce 24.3 (2020): 338-65.
3. Kagia, Ngure, Kosgei, Patrick, Ooko, Michael, Wafula, Leonard, Mturi, Neema, Anampiu, Kirimi, Mwarumba, Salim, Njuguna, Patricia, Seale, Anna C, Berkley, James A, Bottomley, Christian, Scott, J Anthony G, and Morpeth, Susan C. Carriage and Acquisition of Extended-spectrum β-Lactamase-producing Enterobacterales Among Neonates Admitted to Hospital in Kilifi, Kenya. Clinical Infectious Diseases 69.5 (2019): 751-59.
4. Maaya, Leonard, Meulders, Michel, Surmont, Nick, and Vandebroek, Martina. Effect of Environmental and Altruistic Attitudes on Willingness-to-Pay for Organic and Fair Trade Coffee in Flanders. Sustainability (Basel, Switzerland) 10.12 (2018): 4496.

**SCHOLARSHIPS**

VLIR-UOS for the MSc. in Statistics studies (2015-2017)

**PROFESSIONAL MEMBERSHIP**

* Royal Statistical Society (RSS)
* Belgian Royal Statistics Society
* Epidemiology and Biostatistics Society of Kenya

**REFEREES**

Dr. Hans Coppenolle

Director Manufucturing Statistics

Janssen Pharmaceutical Companies

Beerse (Belgium)

Prof. Dr. Martina Vandebroek

Senior lecturer and PhD supervisor

Katholieke Universiteit

Leuven (Belgium)