Maaya Leonard Wafula

Heverlee, Belgium | +32 485 128 211 | lwafulae@gmail.com

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 BIOSTATICIAN POSITION

Medpace 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 Medpace to help advance the company's role of advancing patients' health needs.

WORK EXPERIENCE

Statistician   July 2023 -
ORSTAT, KU Leuven, Belgium
- Wrote SAS programs to support teaching of statistical courses
- Provided statistical support to quantitative and non-quantitative clients
- Supported and coordinated the teaching of online multivariate statistical course
- 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
- Wrote software scripts for data processing, statistical analyses & visualization
- 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**
  - SAS, JMP, CDISC, STATA
  - R, Python, HPC
  - WINBUGS/JAGS/STAN
- **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 BIOSTATISTICIAN POSITION

- Programming experience in multiple statistical and data management softwares: SAS, JMP, R, SQL, Stan, CDISC SDTM and ADaM
- Experience working in highly regulated environments: GxP, FDA, EMEA
- Experience as a statistician in a pharmaceutical and medical setting
- Experience of contributing to the development of internal R libraries
- Experience in effective visualization of data to non-statisticians
- Experience in Design of Experiments for process, method & equipment development
- Experience working in ICH (for vaccines), ASTM (for small molecules) and SOP frameworks
- Experience with Bayesian statistical methods, mixed models, multivariate methods
- 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
- Clinical trials
- Discrete choice modelling

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 Manufacturing Statistics
Janssen Pharmaceutical Companies
Beerse (Belgium)

Prof. Dr. Martina Vandebroek
Senior lecturer and PhD supervisor
Katholieke Universiteit
Leuven (Belgium)