CV FOR DR. CLARIS SHOKO

Permanent Address	**:**	20973, KMP 1, Runyararo South West, Masvingo, Zimbabwe
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Cell Numbers	**:**	+263 772587610, or +263 715181579
Date of Birth	**:**	20 July 1977
Sex	**:**	Female
Marital Status	**:**	Married
Citizenship	**:**	Zimbabwean
Languages	**:**	English, Shona, Venda
Computer Proficiency	**:**	Latex, Beamer, Word, PowerPoint, Excel.
Data Analyses Proficiency	**:**	R, SPSS, Python, SAS, Excel.

ACADEMIC QUALIFICATIONS:

a) ***2019***: **Ph.D. (Statistics)**. University of the Free State, South Africa

b) ***2015***: **MSc. (Statistics)**. University of Venda, South Africa

c) ***2012***: **BSc. (Statistics) (Hons).** University of Venda, South Africa

d) ***2005*****: BSc Education [Mathematics] (Hons), First Class.** Bindura University of Science Education, Zimbabwe

e) ***2000***: **Diploma in Education [Mathematics],** University of Zimbabwe (Mutare Teachers' College)

RELEVANT EXPERIENCE:

- **February 2016 to Date**: **Lecturer [Great Zimbabwe University]**:
  A. ***Department of Mathematics and Computer Science***. Duties: Teaching (Stochastic Processes 2, Design and Analysis of Experiments, Statistical Inference 1, Probability Theory 2, Advanced Probability, Survey Techniques Time Series Analysis, and Research Methods and Statistics), Supervising research to postgraduate students, Equipping learners with data analysis skills using various software (R programming, SPSS, Excel).
  B. ***Teaching and Learning Centre***. Duties: Chief trainer for online platforms (Google classroom, eKampus) to GZU staff and students, Developing lecturer and student manuals for online teaching and learning, and facilitating induction workshops for new staff members, Acting coordinator for the Teaching and Learning Centre.
  C. ***Department of Teacher Development***: Duties- Teaching (Statistics and Probability, Assessment and Evaluation in Mathematics, Pedagogic Studies in Mathematics, Calculus, and Primary School Mathematics)

- **7 February 2022 to 19 February 2022**: Statistical data analysis using R programming language: RUFORUM Capacity building training. Facilitated by Makerere University, Uganda.

- ***September 2020 to August 2021***: Research Consultancy for the National AIDS Council in the research on "The impact of the Beitbridge-Chirundu road dualization on HIV Epidemiology". Duties: Presentation on the Methodology, Fieldwork, Data analysis, and Report writing

- ***Jan 2012 to December 2014***: Teaching Assistant, University of Venda. Duties: Data capturing and analysis for postgraduate students, assisting undergraduate statistics students with tutorials.

- ***Jan 2014 to 2015*****:** Mathematics Educator, Limpopo Department of Education, Azwifarwi Secondary School, Thohoyandou, South Africa

- ***2004 to 2011*****: Senior Teacher:** Department of Mathematics, Gokomere High School, Zimbabwe.

- ***2000 to 2003*****: Teacher**: Department of Mathematics, Chegato High School, Zimbabwe.

MEMBERSHIP IN ASSOCIATIONS:

- ***From 2017 to date***: South African Statistics Association.

COLLABORATION:

1. University of Venda, Department of Statistics: Dr C. Sigauke. E-mail: csigauke@gmail.com. Cell: +27671661397
2. University of South Africa, Department of Statistics: Prof. P. Njuho. E-mail: NjuhoP@unizulu.ac.za
3. University of the Free State, Department of Mathematical Statistics and Actuarial Sciences: Prof. D. Chikobvu. E-mail: Chikobvu@ufs.ac.za. Cell: +27721418458
4. College of Agriculture, J.N.K.V.V., Powarkheda, MP, India. Prof. P. Mishra. E-mail: pradeepjnkvv@gmail.com

RESEARCH PLATFORMS:

- ***From 2016 to Date***: Research Gate
- ***From 2018 to Date***: Google Scholar

COMMUNITY ENGAGEMENT:

Statistician for a project on "The Implications of the Dualisation of the Harare-Beightbridge-Chirundu Road on the HIV Epidemic."

EDITORIAL BOARD MEMBER:

Technical Person, Journal of New Versions in Educational Research. Great Zimbabwe University. Duties: Link person between authors and Reviewers/Language Editors.

REVIEWER OF JOURNALS:

1. The Tohoku Journal of Experimental Medicine.

2. The BMC Infectious Diseases Journal.

3. Journal of Epidemiology and Infection.

4. Theoretical Biology and Medical Modelling, and many others.

AWARDS:

- **2014**: NRF Scarce Skills Scholarship for MSc. research: University of Venda,
- **2004:** Best Student in Mathematics, Bindura University of Science Education,
- **2004:** Bindura University of Science Education: University Prize for First Class,
- **2000:** Position one in teaching Mathematics at "O" Level in Midlands Province.

PUBLICATIONS:

1. Shoko, C.; Sigauke, C. Short-Term Forecasting of COVID-19 Using Support Vector Regression: An Application Using Zimbabwean Data. Journal of COVID, **2022**, *2*, x. https://doi.org/10.3390/xxxxx

2. Pradeep Mishra; Khder Mohammed Alakkari; Achal Lama; Soumik Ray; Monika Singh; **Claris Shoko**; Mostafa Abotaleb; Kadir Karakaya. Modeling and Forecasting of Sugarcane Production in South Asian Countries. Current Applied Science and Technology Vol. 23 No. 1 (January-February 2023). Received: 8 August 2021, Revised: 5 February 2022, Accepted: 18 April 2022 DOI: 10.55003/cast.2022.01.23.002

3. **Shoko C**, Sigauke C, Njuho P. Short-term forecasting of confirmed daily COVID-19 cases in the Southern African Development Community region. Afri Health Sci.2022;22(4). 534-550. https://dx.doi.org/10.4314/ahs.v22i4.60**.**

4. **Shoko C.** & Njuho P**.** ARIMA Model in Predicting of COVID-19 Epidemic for the Southern Africa Region. **Afr., J. Infect. Dis. (2023) 17 (1) 1-9.** https://doi.org/10.21010/Ajid v17i1.1

5. Mostafa Abotaleb, Soumik Ray Pradeep Mishra, Mohamed Lounis, ***Claris Shoko***, Abdullah Mohammad Ghazi AL Khatib, W.H.H. Fernando and Kadir Karakaya. Modelling and forecasting of rice production in south Asian counties. Agricultural Mechanization in Asia, Africa and Latin America, Volume 51, Issue 03, August, 2021

6. Mdewa S., Shoko M.D., **Shoko C**. and Jiri O., Lime and Nitrogen Fertiliser Interaction in Influencing Root System Architecture in Sandy - Textured Soils in Zimbabwe**,** Global Scientific Journal: Volume 9, Issue 3, March 2021

7. **Shoko C.** and Chikobvu D. and Bessong P.O. A Markov model for the effects of virologic failure on HIV/AIDS progression in TB co-infected patients receiving antiretroviral therapy in a rural clinic in northern South Africa. *South African Medical Journal* 2020; 110(4):313-319. https://doi.org/10.7196/SAMJ.2020.v110i4.13934

8. Shoko C. and Chikobvu D. and Bessong P.O. The time-homogeneous approach with covariates for the HIV, AIDS, DEATH (HAD) model for individuals on combination antiretroviral therapy (cART). Pakistan Journal of Biosciences, 2020; 23: 542-551. **DOI:** 10.3923/pjbs.2020.542.551

9. **Shoko C.** and Chikobvu D. A superiority of viral load over CD4 cell count when predicting mortality in HIV patients on therapy. *BMC Infectious Disease*. (2019) 19:169. DOI: 10.1186/s12879-019-3781-1.

10. **Shoko C.** and Chikobvu D. and Bessong P.O. A Comparison of the Time Homogeneous and Time Non-homogeneous Markov models for monitoring HIV/AIDS progression based on viral load: Results from Patients on ART. *Biomedical Research 2019; 30 (5): 786-795*

11. **Shoko C.** and Chikobvu D. Time-homogeneous Markov process for HIV/AIDS progression under a combination treatment therapy: cohort study, South Africa. *Theoretical Biology and Medical Modelling*. (2018) 15:3. DOI: 10.1186/s12976-017-0075-4.

12. **Shoko C.** and Chikobvu D. Determinants of Viral Load Rebound on HIV/AIDS Patients Receiving Antiretroviral Therapy: Results from South Africa. *Theoretical Biology and Medical Modelling*. (2018) 15:10. Doi: 10.1186/s12976-018-0082-0.

13. Chikobvu D. and **Shoko C**. A Markov Model to estimate Mortality due to HIV/AIDS using CD4 cell counts based states and viral load: A Principal Component Analysis approach. *Biomedical Research*. 2018; 29 (15): 3090-3098.

14. **Shoko C.**, Chikobvu D. and Bessong P.O. A Markov Model to estimate Mortality due to HIV/AIDS using viral load levels based states and CD4 cell counts: A Principal Component Analysis approach. *Infectious Disease and Therapy*. (2018), 2 November 2018. Doi: 10.1007/s40121-018-0217-y.

15. M. Shoko**,** S. Mkwamba, D. Tsingo and **C. Shoko** (2009). Production methods and farming systems of sugarcane under the fast-track land reform programme in a semi-arid region in Zimbabwe. *Sugar Cane Int. 27(1): 7-11.*

MANUSCRIPTS UNDER REVIEW

1. **Shoko Claris** and Sigauke Caston**.** Quantile regression averaging approach to predict the spread of COVID-19 in South Africa: The spread of COVID-19 in South Africa." South African Journal of Science. Ref Number: 13029. **(Under Review)**
2. **Shoko Claris**, Chikobvu Delson, and Bessong Pascal O. Cox's hazard regression model and Aalen's hazard additive regression model are used to study HIV/AIDS

progression under drug therapy: Case study from South Africa. Central African Journal of Medicine. (**Under review**)

3. **Claris Shoko**. A Proposed viral load definition for the AIDS state for HIV/AIDS patients. Central African Journal of Medicine (**under review)**

4. **Shoko Claris**. Predicting South Africa's daily COVID-19 cases using ARIMA forecasting model: 6 March to 6 July 2020. Journal of Medical Sciences (**Under review**)

Book Chapters: Work in Progress

1. Artificial Neural Network (ANN) modeling and application in tea production in India
2. TBATS modeling and application in Tea production in India using R programming language

STANDING IN THE DISCIPLINE

1. External Examiner: Dissertation marking, Faculty of Health Sciences, University of Cape Town.
2. Facilitating induction workshops to new academic staff members at Great Zimbabwe University
3. Training academic staff members on the use of Learning Management Systems (Google Classroom. Moodle) during and after the lockdown period.

POSTGRADUATE SUPERVISION

Honours Students: Application of Markov Processes, Logistic regression modelling, Time series analysis, Multistate modelling in research.

CONSULTANCY WORK:

Data Analyst, NATIONAL AIDS COUNCIL OF ZIMBABWE. From September 2020 to August 2021

CONFERENCE PRESENTATIONS:

1. Short-term forecasting of confirmed daily COVID-19 cases in the SADC region. Great Zimbabwe University Research Fair, 4-5 October 2021. Poster presentation.

2. IMPACTS OF THE DUALISATION OF HARARE-BEIT BRIDGE-CHIRUNDU ROAD ON HIV EPIDEMIC INCEPTION AND TRAINING PROGRAMME held on the 8th-10th of December 2020 at Great Zimbabwe Hotel: NATIONAL AIDS COUNCIL OF ZIMBABWE. I presented A paper on the METHODOLOGY – DESIGN AND SAMPLING, ANALYSIS PLAN

3. A Markov Model to estimate Mortality due to HIV/AIDS using CD4 cell counts based states and viral load: A Principal Component Analysis approach. Conference, South African Statistics Association, 26-30 November 2018. University of South Africa. *The paper was published in the Biomedical Research Journal*

RESEARCH INTERESTS

- Stochastic modelling
- Design and Analysis of Experiments
- Time Series Analysis (Quantile Regression Neural Network Models, ARIMA, Holt-Winter's, Exponential smoothing, BATS and TBATS models)
- Disease modelling (HIV/AIDS, COVID-19, TB, Cancer, Malaria)
- Longitudinal Data analysis
- Survey techniques

REFEREES

1. Mr Munthali, Chairperson, Department of Mathematics and Computer Sciences, Great Zimbabwe University, E-mail: amunthali@gzu.ac.zw. Cell: +263 772936474.
2. Dr. V. Machingura. Coodinator, Teaching and Learning Centre. Great Zimbabwe University. E-mail: vmachingura@gzu.ac.zw. Cell: +263777617395.
3. Dr S. Madusise, Chairperson, Department of Teacher Development, Great Zimbabwe University. E-mail: smadusise@gzu.ac.zw. Cell: +263773778886
4. Professor D. Chikobvu. Professor. Department of Mathematical Statistics and Actuarial Sciences, University of the Free State. E-mail: Chikobvu@ufs.ac.za. Cell: +27 721418458
5. Dr. C. Sigauke. Senior Lecturer. The University of Venda. Email: csigauke@gmail.com. Cell: +27671661397