

**ACADEMIC SUMMARY**  
of  
**Prof. Peter Nyamuhanga Mwita**  
**[BSc Hons, MAppStats, Ph.D.]**

**BIO-DATA**

Professor Peter Mwita is a full professor in the Department of Mathematics and Statistics and has specialized as a Senior Research fellow in Statistics. He currently holds the position of a Deputy Vice Chancellor In-Charge of Research Innovation and Linkages in Machakos University. He is also a practicing Research Fellow and Postgraduate supervisor of statistics and related applications. Further on, he is a Students academic advisor, curriculum developer and is involved in initiating and conducting fundable research projects and any other duties assigned by the university.

**CONTACT ADDRESS**

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## **EDUCATIONAL BACKGROUND AND QUALIFICATIONS**

### **April, 2000-March, 2003**

Department of Mathematics-Statistics AG.  
Technical Universität Kaiserslautern,  
Erwin-Schrodinger Strasse, 67653 Kaiserslautern  
GERMANY.

**Qualification:** Ph.D. (Dr.rer.nat) in Statistics

**PhD Title:** Semi-Parametric Estimation of Conditional Quantiles for Time Series with Applications to Finance. Supported by DAAD.

### **February, 1994-February, 1996**

Department of Statistics, School of Economics and Financial Studies,  
Macquarie University, Sidney, NSW 2109  
AUSTRALIA.

**Qualification:** Master of Applied Statistics (MAppStats). Supported by AIDAB

### **November, 1989- November, 1993**

Kenyatta University,  
P.O Box 62000-00200, Nairobi, KENYA.

**Qualification:** BSc. First Class Honours

## **WORK EXPERIENCE**

### **1<sup>st</sup> February 2017 to Current**

**Institution:** Machakos University

**Employer:** Machakos University Council

**Position:** Deputy Vice Chancellor (Research, innovation and Linkages)

**Duties:** As in the Machakos University Statutes

### **8<sup>th</sup> June, 2016 to current**

**Employer:** Jomo Kenyatta University of Agriculture and Technology

**Position:** Full Professor,

Department of Statistics and Actuarial Sciences

**Duties:** Lecturing undergraduate, master and supervision of MSc. Research and PhD students in area of statistics and related applications. Students academic advisor, curriculum development, Initiating and conducting fundable research projects and any other duties assigned by the university.

### **2<sup>nd</sup> July, 2010 to current**

**Employer:** Jomo Kenyatta University of Agriculture and Technology

**Position:** Associate Professor

Department of Statistics and Actuarial Sciences

**Duties:** Lecturing undergraduate, master and supervision of MSc. Research and PhD students in area of statistics and its applications. Students academic advisor, curriculum development, Initiating and conducting fundable research projects and any other duties assigned by the university.

### **June, 2007 to June 2010**

**Employer:** Jomo Kenyatta University of Agriculture and Technology

**Position:** Senior Lecturer

**Duties:** Lecturing undergraduate, master and supervision of MSc. Research and PhD students in area of statistics and its applications. Students academic advisor, curriculum development, and any other duties assigned by the university.

**April, 2003 to June 2007**

**Employer:** Jomo Kenyatta University of Agriculture and Technology

**Position:** Lecturer

**Duties:** Lecturing undergraduate, master and supervision of MSc. Research and PhD students in area of statistics and its applications. Students academic advisor, curriculum development, and any other duties assigned by the university.

**April, 1996 to April, 2003**

**Employer:** Jomo Kenyatta University of Agriculture and Technology

**Position:** Assistant Lecturer

**Duties:** Lecturing and handling tutorials in Statistics area with the undergraduate students. Time-table and examination co-ordinator in the department.

**April, 1993-April, 1996**

**Employer:** Jomo Kenyatta University of Agriculture and Technology

**Position:** Teaching Assistant.

**Duties:** Giving tutorials to students and assisting them during practical sessions.

**OTHER IMPORTANT POSITIONS**

**INSTITUTION:** Jomo Kenyatta University of Agriculture and Technology

**1<sup>st</sup> September 2013 to January 2017**

**Position:** Dean, School of Mathematical Sciences

**Institution:** Jomo Kenyatta University of Agriculture and Technology

**Duties:** In addition to Teaching and Research, the Dean: is Administrative and Academic Head of the school; is the Chairperson of all schools examinations and Postgraduate Boards; represents the school in University Committees and other bodies as required; keeps custody of and maintain all official documents concerning the school; prepares the annual budget and the procurement plan for the Office; is responsible for the preparation of the annual work plans for the school; is Accounting Officer of the school; at all times endeavors to ensure that the School fulfills its obligations as stipulated in the Act, Charter, Statutes and the Strategic Plan of the University; and makes recommendations with respect to probation, advancement and promotion of Academic Staff within the school.

**May, 2011 to 31<sup>th</sup> January 2017**

Chairman, JKUAT Website Management Committee.

The following have been achieved:

- Decentralized activities of the JKUAT website
- Led the development of JKUAT website policy
- Increased the performance of JKUAT website as ranked by the World Universities Ranking Web (Webometrics).

**November 2008 to November 2012**

Board Member, Board of the JKUAT Alumni and International Students Affairs

**2<sup>nd</sup> April to 30<sup>th</sup> June 2012**

Acting Director, JKUAT Alumni and International Students Affairs

**1<sup>st</sup> April to 30<sup>th</sup> May 2009**

Acting Dean, Faculty of Science, JKUAT

**6<sup>th</sup> August 2012 to 30<sup>th</sup> December 2016**

Coordinator Mathematics programmes of the Pan African University, African Union Initiative.

**January, 2007 to March 2011**

**Position:** Chairman, Department of Statistics and Actuarial Sciences (**Founding Chairman**).

**Duties:** In addition to Teaching, Research and other duties and responsibilities as the Chairman of the Department, I

- Was the Administrative and Academic Head of the Department.
- Was responsible for the day-to-day management of the Department.
- Served as the Executive Officer of the department in the implementation of departmental and University policies, as determined by the Departmental Board and other University Authorities.
- Served as Chairman of the Departmental Board Meetings.

- Represented the Department in appropriate University Committees and other bodies as required.
- Ensured the Department maintained proper and acceptable standards of teaching and research

**1<sup>st</sup> September 2003 to December, 2006**

Coordinator for BSc. Actuarial Science degree program, JKUAT- Nairobi Centre.

**Duties:** Coordinating the teaching of the programme, Drawing up the evaluation schedules for the programme, coordinating the moderation of draft examinations and consolidating all marks for examinations to be discussed by Board of Examiners

**1<sup>st</sup> June 2003 to December, 2006**

Chairman, Department of Mathematics and Statistics seminars and conference committees, JKUAT

**1<sup>st</sup> June 2003 to 31<sup>st</sup> August 2005**

Chairman, Department of Mathematics and Statistics exhibitions committee, JKUAT

**EXTERNAL EXAMINATIONS**

**May 2014 to March 2017**

**Institution:** Moi University, Kenya

**Position:** External Examiner

**Duties:** Moderation of Examinations and Marking in the area of Actuarial Sciences

**November 2011 to June 2015**

**Institution:** University of Kabianga (formally Kabianga University College)

**Position:** External Examiner

**Duties:** Moderation of Examinations and Marking in the areas of Probability, Statistics and Operations Research.

**June 2009 to June 2014**

**Institution:** University of Nairobi

**Position:** External Examiner

Duties: Moderation of Examinations and Marking in the areas of Financial Mathematics and Actuarial Science

**April, 2009 to April 2013**

**Institution:** Kenyatta University, Kenya

**Position:** External Examiner

**Duties:** Moderation of Examinations and Marking in the areas of Probability, Statistics and Operations Research

#### **NATIONAL POSITION (APPOINTMENT)**

**31<sup>st</sup> July 2013 to February 2017**

**Corporation/Agency:** Multimedia University of Kenya

**Details of the agency:** Multimedia University of Kenya (MMU) is a Public University established by the Kenya Government under the Universities Act 2012.

**My Position in the Agency:** Council Member

**21<sup>st</sup> June 2007 to 22<sup>nd</sup> June 2010**

**Corporation/Agency:** Kenya National Bureau of Statistics, A semi-autonomous Government Agency

**Country:** Kenya

**Details of the agency:** Is the principal agency of the Government for collecting, analysing and disseminating statistical data in Kenya and the custodian of official statistical information. It is also responsible for (a) planning, authorizing, co-ordinating and supervision of all official statistical programmes undertaken within the national statistical system (b) establishing standards and promoting the use of best practices and methods in the production and dissemination of statistical information across the national statistical system (c) collecting, compiling, analyzing, abstracting and disseminating statistical information (d) conducting the Population and Housing Census every ten years, and other censuses in the country and (e) maintaining a comprehensive and reliable national socio-economic database.

**My Position in the Agency:** The Chairman of the Board of Directors ( **Founding Chairman**)

**My Responsibilities:** Leading the Board in the management of the Bureau through:-

(a) Formulating and monitoring the implementation of policies pertaining to the Bureau (b) determining from time to time, the structure and staffing levels of the

Bureau (c) recruiting suitable staff for the Bureau (d) promoting professionalism and discipline among the staff of the Bureau by facilitating professional training and (e) approving the Bureau's corporate plan, annual work programmes and budgets.

Under my Chairmanship, the following achievements were realized, among others:

i. Institutional Development:

- Restructured the (former) Central Bureau of Statistics (CBS) into a Semi Autonomous Government Agency with the required capacity to build an effective National Statistical System (NSS). This entailed taking the Bureau through the delinking process and coming up with a new organizational structure.
  - Competitively filled positions of Director General, Heads of Directorates, Senior Managers, and some Managers.
  - Undertook suitability interviews for all seconded (former CBS) staff for positions of managers and below.
  - Strengthened internal administrative controls at KNBS by putting in place policies and procedural manuals for Financial Management; Human Resources Management and Development; Procurement; and Transport.
  - Developed and launched the first Strategic Plan (2009 - 2013)
- ii. Successfully carried out the National Population and Housing Census in 2009, where 98% of Kenya's 12 million households participated. This was the highest rate since independence in 1963. The campaign won the United Nations public relations Grand award-the first ever in Kenya.
- iii. Strengthened statistical capacity in line Ministries through training and provision of equipments.
- iv. Established a calendar for release of data and related reports and increased the use of the KNBS Website to disseminate information
- v. Updated the methodology for the National CPI
- vi. Established mechanisms for enhanced partnerships and sharing of information with stakeholders and development partners.



vii. Steered the establishment of the Kenya National Statistical Society.

#### **NATIONAL POSITION (ELECTIVE)**

##### **November 2012 to Current**

**Organization:** Kenya National Statistical Society (KNSS)

**Country:** Kenya

**Details of the Society:** The main objective of the society is to promote the understanding, teaching, research, application and good practice of statistics, statistical theory and methods in all areas.

**My Position in the society:** The Chairman of the Society (First elected in 2012 and then re-elected in 2015)

**My Responsibilities:** (a) Heads the KNSS and the top coordinating organ (council) of KNSS, (b) Preside over all meetings of executive committee and all annual general and special meetings.

#### **4. DEVELOPMENT OF ACADEMIC PROGRAMS, REVIEWS AND PROFESSIONAL AFFILIATION**

(a) Successfully steered the development of the following programs, including regulations, at Jomo Kenyatta University of Agriculture and Technology.

- Master of Science in Applied Statistics (2006)
- Postgraduate Diploma in Applied Statistics (2006)
- Bachelor of Science in Financial Engineering(2008)
- Bachelor of Science in Statistics (2010)
- Bachelor of Science in Biostatistics (2010)
- Bachelor of Science in Operations Research (2015)

(b) Reviewed and improved the following programs:

- Bachelor of Science in Mathematics (2004)
- Bachelor of Science in Mathematics and Computer (2005)
- Bachelor of Science in Actuarial Sciences (2008).
- Master of Science in Mathematics under the Pan African University (2012)

- 2004: Reviewed Probability and Statistics course module for bridging Certificate in mathematics and developed corresponding teaching manuals. The manuals are currently being sold and distributed to all centres and JKUAT campuses offering this programme. Each manual costs Ksh.500.

(c) Membership to Professional Body

Kenya National Statistical Society (Elected Chairman from November 2012 to current)

### **Peer Review and Editorial work**

I am a reviewer of papers from the following:

- The East African Journal of Statistics
- International Association of Science and Technology for Development

I am a member of Editorial Team of the following Journals

- Editorial Board, International Journal of Management and Administrative Sciences, <http://www.ijmas.org/editorialboard.htm> (since 22nd May 2011)
- Editorial Advisor, International Journal of Innovative Research and Studies, <http://www.ijirs.com/experts.php> (since 9th March 2013)

(d) Patron of the following Associations/Clubs

- **2009-Current:** Jomo Kenyatta University of Agriculture and Technology Research Club
- **2009-January 2017:** Jomo Kenyatta University Kuria Students Association
- **2003-2007:** Jomo Kenyatta University Actuarial Students Association

### **MY RESEARCH AREAS**

- Nonparametric estimations
- Time Series and Applications in Finance
- Extreme Value Theory and Application to Risk Exposures
- Bootstrap Methods

## PUBLICATIONS

- (1) Franke, Jürgen; Mwita, Peter; Wang, Weining (2015). Nonparametric estimates for conditional quantiles of time series. *The Journal of Advances in Statistical Analysis*, 99, 107-130. The official journal of the German Statistical Society. Paper found at <http://link.springer.com/article/10.1007/s10182-014-0234-4>. Also discussed at *Collaborative Research Center 649: Economic Risk, Humboldt University Berlin*, German, SFB 649 Discussion Paper, No. 2014-012.
- (2) Koima, J. K, Mwita, P. N and Nassiuma, D. K (2015). Volatility Estimation of Stock Prices using Garch Method. *Kabarak Journal of Research & Innovation*, 3(1), 48-54.
- (3) Mbiriri Ikonya, Peter Mwita, Anthony Wanjoya (2014). Modeling export price of tea in Kenya: Comparison of artificial neural network and seasonal autoregressive integrated moving average, *American Journal of Theoretical and Applied Statistics*, Vol. 3(6), 211-216. <http://www.sciencepublishinggroup.com/j/ajtas>
- (4) D. N. Mutunga, P. N. Mwita and B. K. Muema (2014). Conditional Volatility Estimation by Conditional Quantile Autoregression, *International Journal of Mathematical Analysis*, Vol. 8 (41), 2033 – 2046.
- (5) Anthony Ngunyi, Peter Nyamuhanga Mwita, Romanus O. Odhiambo (2014). On the Estimation and Properties of Logistic Regression Parameters, *IOSR Journal of Mathematics*, Vol. 10 (4), 57-68
- (6) Ntawihebasenga J. Dieu, P. N. Mwita, J. K. Mung'atu (2014). Estimation of Risk in Rwanda Exchange Rate, *International Journal of Science and Research*, Vol. 3 (6), 516-521. [www.ijsr.net](http://www.ijsr.net)
- (7) Machuke Grace, P. N. Mwita, J. M. Kihoro (2014). Measuring Financial Risk in Stock Returns: A Case of Nairobi Stock Exchange, *International Journal of Science and Research (IJSR)*, Vol. 3(4), 42-45.

- (8) Peter N. Mwita and Jürgen Franke (2013). Bootstrap of Kernel Smoothing in Quantile Autoregression Process, *Journal of Statistical and Econometric Methods*, Vol.2 (3), 2013, 175-196
- (9) Koima, J. K., P. N. Mwita and D. K. Nassiuma (2013). Application of extreme value theory in the estimation of value at risk in Kenyan stock market, *Int. J. Cur. Tr. Res*, Vol. 2(1), 276 – 284
- (10) Okumu Argan, Mwalili Samuel and Mwita Peter (2012). Modelling credit risk for personal loans: *Cox Proportional Hazards Model Approach*. *Far East Journal of Theoretical Statistics*, Vol. 40 (2), 107- 125.
- (11) Okumu A. Wekesa, Mwalili Samuel and Mwita Peter (2012). Modeling Credit Risk for Personal Loans Using Product-Limit Estimator. *International Journal of Financial Research*, Vol. 3(1), 22-32. <http://www.sciedu.ca/journal/index.php/ijfr/article/download/705/342>
- (12) Levi Mbugua, Peter Mwita and Samuel Mwalili (2011). Application of Nonparametric Methods in Studying Energy Consumption. *Rwanda Journal, Series C, 2011: Mathematical Sciences, Engineering and Technology*, Vol. 23, 7-20. <http://www.ajol.info/index.php/rj/article/view/76232>
- (13) Peter Nyamuhanga Mwita, Romanus Otieno Odhiambo, Verdiana Grace Masanja and Charles Muyanja (7/2011). Prediction of the Likelihood of Households Food Security in the Lake Victoria Region of Kenya. *Pakistan Journal of Statistics and Operations Research*, Vol. VII(2), 331-346. <http://www.pjsor.com/index.php/pjsor/article/view/241/153>
- (14) Isaya Maana, Peter N. Mwita and Romanus Odhiambo (2010). Modelling the Volatility of Exchange Rates in the Kenyan Market. *African Journal of Business Management*, Vol. 4(7), 1401-1408. <http://www.academicjournals.org/ajbm/pdf/pdf2010/4July/Manna%20et%20al.pdf>

- (15) L. N. Mbugua and P. N. Mwita. Statistical techniques for modeling extreme price dynamics in the energy market. *IC-MSQUARE 2012: International Conference on Mathematical Modelling in Physical Sciences 3–7 September 2012, Budapest, Hungary*. Journal of Physics: Conference Series 410 (2013) 012113 doi:10.1088/1742-6596/410/1/012113. [http://iopscience.iop.org/1742-6596/410/1/012113/pdf/1742-6596\\_410\\_1\\_012113.pdf](http://iopscience.iop.org/1742-6596/410/1/012113/pdf/1742-6596_410_1_012113.pdf)
- (16) Levis Mbugua, Peter Mwita, Samuel Mwalili and Cuthbert Mhilu. Statistical Models for Estimation of Extreme Daily Rate of Exchange in Energy Use. “ *Proceeding of the 2<sup>nd</sup> International Conference in Mechanical and Industrial Engineering: Engineering Innovations for Sustainable Development*” 16<sup>th</sup>-17<sup>th</sup> February 2012, Arusha, Tanzania.
- (17) Peter Nyamuhanga Mwita, Romanus Otieno Odhiambo, Verdiana Grace Masanja and Charles Muyanja (7/2011). Prediction of the Likelihood of Households Food Security in the Lake Victoria Region of Kenya. *Pakistan Journal of Statistics and Operations Research*, Vol. VII(2), 331-346. <http://www.pjsor.com/index.php/pjsor/article/view/241/153>
- (18) Peter Nyamuhanga Mwita (2010). Estimation of T-Period’s Ahead Extreme Quantile Autoregression Function. *African Journal of Mathematics and Computer Science Research*, Vol. 3(4), 60-67.
- (19) O. V. Omwenga and N. P. Mwita (2010). Conflict Resolution using Statistical Approach. *African Journal of Mathematics and Computer Science Research*, Vol. 3(2), 26-30.
- (20) George Orwa, Romanus Otieno and Peter Mwita (2010). Nonparametric Mixed Ratio Estimator for a Finite Population Total in Stratified Sampling. *Pakistan Journal of Statistics and Operations Research*, Vol.6(1), 21-35.

- (21) P. N. Mwita, R. O. Otieno and J.C. Chelule (2009). Parametric Estimation of Expected Shortfall in a Financial Portfolio. *East African Journal of Statistics*, Vol. 2(3), 124-133.
- (22) V.S. Andika, S. M. Mwalili, R. O. Otieno and P. N. Mwita (2009). Bayesian Analysis of Multivariate Binary Data with Application to Caries Research. *East African Journal of Statistics*, Vol. 2(3), 101-117.
- (23) J. K. Koima, P. N. Mwita and R. O. Odhiambo (2009). Market Risk Measurement Using Artificial Neural Networks and Extreme Value Theory. *East African Journal of Statistics*, Vol. 2(3), 149-160.
- (24) V.S. Andika, S. M. Mwalili, R. O. Otieno and P. N. Mwita (2009). Bayesian analysis in medical research and its application to longitudinal data and repeated measures. *East Africa Journal of Statistics*, Vol. 3(1), 23–36.
- (25) R. O. Otieno, P. N Mwita and P. N. Kihara (2007). Nonparametric model assisted model calibrated estimation in two stage survey sampling. *East African Journal of Statistics*, Vol. 1(3), 261-281.
- (26) Mwita, P. N., Otieno, R. O., Etwasi, W. N and Orwa G. O. (2006). Non-Response Weiting Adjustment Approach In Survey Sampling. *The East African Journal of Statistics*, Vol. 1(2),143-160.
- (27) P. N. Mwita, R. O. Otieno, J. M. Kihoro, A. G. Waititu, G. Orwa. (2006). Simultaneous Estimation of Conditional Quantile, Scaling and Approximate Volatility Functions. *Journal of Agriculture, Science and Technology*, Vol. 8(2), 78-100.
- (28) Mwita, P., Franke, J., Odhiambo, R. and Waititu, A (2005). Direct Conditional Quantiles: Kernel Estimator and its Consistency. *African Journal of Science and Technology*, Vol. 6(2), 67-76.

- (29) Otieno, R., Mwita, P., Wafula, C. and Obudho, R. (2005). Model-Based Estimation of Finite Population Total in Stratified Sampling. *The East African Journal of Statistics*, Vol. 1(1), 23-40.
- (30) Mwita, P. and Odhiambo, R. (2005). Conditional Scale Function Estimate in the Presence of Unknown Conditional Quantile Function. *African Journal of Science and Technology*, Vol. 6(1), 50-58. Pdf version <http://www.ansti.org/journal.php>
- (31) Mwita, P. (2005). On Conditional Scale function: Estimate and Asymptotic Properties. *African Diaspora Journal of Mathematics*, Vol.3 (1), 1-10. <http://www.african-j-math.org/>
- (32) Franke, J., Mabouba, D. and Mwita, P. (2004). Nonparametric Value-at-Risk. *The Journal of Oberwolfach Reports: Statistics in Finance*, Vol. 1, 133-134. Pdf version at [www2.mfo.de/programme/schedule/2004/03/OWR\\_2004\\_02.pdf](http://www2.mfo.de/programme/schedule/2004/03/OWR_2004_02.pdf)
- (33) Mwita, P.N. (2003). Semiparametric estimation of conditional quantiles for time series with applications in finance, *PhD Thesis*, University of Kaiserslautern- Published electronically at <http://kluedo.ub.uni-kl.de/volltexte/2003/1557/>
- (34) Kube, A.O., Kihoro, J.M. and Mwita, P.N. (2009). Forecasting and Management of Exchange Rates Using Artificial Neural Networks. *Proceedings of 2009 Scientific Conference “Physical and Biological Sciences for Industrial and Socio-Economic Development”* 5<sup>th</sup> – 6<sup>th</sup> May 2009, Vol. 2(1), 171-182.
- (35) Mwita, P.N, Otieno, R.O, Muema, B. and Cheruiyot D. (2009). Estimation of T-Periods Ahead Conditional Expected Shortfall. *Proceedings of the 2009 Scientific Conference “Physical and Biological Sciences for Industrial and Socio-Economic Development”* 5<sup>th</sup> – 6<sup>th</sup> May 2009, 2(1),96-106.

- (36) Andika, V. S., Mwalili, S. M., Otieno, R. and Mwita, P. (2009). Bayesian Analysis of Correlated Binary Outcomes with application to Caries Research. Proceeding of the 2009 Scientific Conference, “*Physical and Biological Sciences for Industrial and Socio-Economic Development*” 5<sup>th</sup> – 6<sup>th</sup> May 2009, Vol. 2(2), 16-28.
- (37) J. M. Kihoro, R.O. Otieno, C. Wafula and P. Mwita. Radial Basis Versus Multilayer Perceptron Neural Networks on Imputation of Time Series Data. *Proceedings for The Faculty of Science: First Annual Scientific Conference (2006)-Science for Industrialization*, Volume 1(1), Pages 54-68.
- (38) Mwita, P. and Franke J. Estimation of Critical Streamflow Discharge Level using Quantile Regression Approach. *Proceedings of the SIXTH IASTED International Conference on Modelling, Simulation and Optimization* 11-13 September 2006, pages 177-181.  
<http://www.actapress.com/PaperInfo.aspx?PaperID=28297&reason=500>



## CONFERENCE/WORKSHOP PARTICIPATION

### 1<sup>st</sup> -5<sup>th</sup> August 2014

Mathematics Education and Working Life Relevance

**Host:** Lappeenranta University of Technology, Sweden and Pan African University Institute for Basic Sciences, Technology and Innovation.

**Paper presented:** Proposal for PAUSTI mathematics programs review

**Venue:** AICAD, JKUAT, Nairobi

### 24<sup>th</sup> June-5<sup>th</sup> July 2013

Mathematics Education and Working Life Relevance

**Host:** Lappeenranta University of Technology, Sweden and Nelson Mandela African Institute of Science and Technology (NM-AIST), Tanzania.

**Paper presented:** Mathematics Programs at Pan African University ( PAUSTI)- Challenges and opportunities

**Venue:** Nelson Mandela African Institute of Science and Technology (NM-AIST) Arusha, Tanzania.

### 16<sup>th</sup>-17<sup>th</sup> February 2012

2<sup>nd</sup> International Conference in Mechanical and Industrial Engineering: Engineering Innovations for Sustainable Development”

**Paper Presented:** Statistical Models for Estimation of Extreme Daily Rate of change in energy use.

**Venue:** Naura Springs Hotel, Arusha, Tanzania.

### 16<sup>th</sup> -18<sup>th</sup> November 2011

4<sup>th</sup> NUR International Scientific Research Conference (ISRC) 2011 “Energy: Towards Sustainable, Green and Affordable Energy”.

**Paper Presented:** Application of Nonparametric Methods in Studying Energy Consumption

**Venue:** National University of Rwanda, Main Campus.

### 5<sup>th</sup> – 6<sup>th</sup> May 2009

2009 Faculty of Science Scientific Conference “Physical and Biological Sciences for Industrial and Socio-Economic Development

**Paper presented:** Modelling the Volatility of Exchange Rates in the Kenyan Market.

**Venue:** JKUAT

**11<sup>th</sup> to 13<sup>th</sup> September 2006**

6<sup>th</sup> International Association of Science and Technology for Development (IASTED)

International Conference on Modelling, Simulation and Optimization (MSO~2006)

**Paper Presented:** Estimation of Critical Streamflow Discharge Level Using Quantile Regression Approach. **Venue:** Gaborone, Botswana. **Sponsor:** ANSTI-UNESCO

**27-28 October, 2005**

The JKUAT Scientific, Research and Technological Conference (Papers presented)

- i. Simultaneous Estimation of Conditional Quantile, Scaling Function and Approximate Volatility Functions. Presented by Dr. Peter N. Mwita.
- ii. Decongestion Model for Passengers Public Transport by use of Heuristic: A Case Study of Nairobi City. Presented by Mr. George Orwa.

**18-19 November, 2002**

On Financial Statistics: Copulas at Kaiserslautern, GERMANY.

**Presented:** On Direct Estimation of Conditional Quantiles for Time Series.

**Sponsor:** The Graduate College of the University of Kaiserslautern, GERMANY.

**14-17 August, 2002**

Perspectives in Modern Statistical Inferences II at Brno, CZECH REPUBLIC.

**Contributed talk:** Nonparametric Estimation of Stochastic Volatility: A Simultaneous Quantile Approach.

**Sponsor:** The Graduate College of the University of Kaiserslautern, GERMANY.

**17-20 July, 2001**

Quantile Regression Workshop at Liberec, CZECH REPUBLIC.

**Presented:** On Extreme Quantile Regression Models for Heavy Tailed Distributions.

**Sponsor:** The Graduate College of the University of Kaiserslautern, GERMANY.

## INVITED (PAID) TALKS

18<sup>th</sup> March 2013

University: Technical University of Mombasa (TUM).

Title: On the importance of Statistics in Planning and Development.

I also launched The Kenya National Statistical Society (KNSS) Coast Branch and Junior Statistical Society - TUM Chapter

3<sup>rd</sup> February, 2003

**Institute:** Technical University of Munchen, Zentrum Mathematik, Boltzmannstr. 3, D-85747 Gerching, GERMANY.

**Title:** On Estimation of Conditional Quantiles for Time Series.

9<sup>th</sup> January, 2003

**Institute:** Center for Advanced European Studies and Research (CAESAR), Financial Engineering group, Friedensplatz 16, D-53111 Bonn, GERMANY.

**Title:** Direct Estimation of Conditional Quantiles for Time Series.

## ORGANIZATION OF WORKSHOPS/CONFERENCES

- Mathematics Supervisors Induction Workshop at AICAD. 24<sup>th</sup> March 2016.  
My role-Chairman
- Mathematics Education and Working Life Relevance  
**Host:** Lappeenranta University of Technology, Sweden and Pan African University Institute for Basic Sciences, Technology and Innovation.  
**Venue:** AICAD, JKUAT, Nairobi. 1<sup>st</sup> -5<sup>th</sup> August 2014
- The International Association of Science and Technology for Development (IASTED)  
A member of the International Program Committee (IPC)-IASTED International Conference on **Modelling and Simulation** (AfricaMS 2010), which took place in Gaborone, Botswana from September 6 – 8, 2010.
- 2009 JKUAT Faculty of Science Scientific Conference. My roles: Editor-in-Chief of the proceeding, Session Chair and technical committee member.

- **2005 JKUAT ANNUAL SCIENTIFIC, RESEARCH AND TECHNOLOGICAL CONFERENCE**

Date: 27-28<sup>th</sup> October 2005

Venue: JKUAT

**My roles:**

A member of the organizing and technical committee.

The chairman of lead/invited speakers sub-committee.

The chairman of the program sub-committee.

- **2005 AFRICA'S BRAIN GAIN CONFERENCE**

Date: 7-9<sup>th</sup> December 2005

Venue: The Kenya School of Monetary Studies

**My role:** A member of the organizing committee.

## COMPLETED RESEARCH/PROJECTS

### COMPLETED

- **Project:** Mathematics Education and Working Life Relevance in East-Africa.

The overall objective of the project was to promote applications oriented mathematics education at universities, with emphasis on innovation and working-life relevance and development and invigoration of math teacher training programs in East Africa.

**My role:** Local Coordinator (Kenya). I am part of the team that developed the proposal for the project bringing together PAUISTI-JKUAT (Kenya), University of Dar es Salaam (Tanzania), The Nelson Mandela African Institute of Science and Technology (Tanzania), National University of Rwanda (Rwanda) Kigali Institute of Science and Technology (Rwanda), Makerere University (Uganda), Busitema University (Uganda), University of Bahir Dar (Ethiopia) Tampere University of Technology (Finland) University of Oulu (Finland) in cooperation with Lappeenranta University of Technology (Finland). The latter is the lead university. The project has now taken off with the first workshop held on 24.6-5.7.2013, Arusha, Tanzania and second one on 2.12.2013-10.12.2013,

Makerere , Uganda. JKUAT /PAUISTI, Kenya to hold project workshop in August 2014.

**Value:** Euro 500,000.00

**Source of Funding:** Finish Government

**Period of Project:** 2012- 2015

- **Title:** Capacity Building on Statistics and computer applications  
**My role:** Lead Project Coordinator  
**Level:** National  
**Source of Funds:** STATCAP, KNBS  
**Period:** 2011- 2012
- **Title:** Mathematical Techniques for Food Crops Balance Sheet and Food Security Indicators in the Lake Victoria Watershed.  
**Team leader/Principal researcher:** Prof. Peter N. Mwita  
**Co-researchers:**
  - i. Prof. Verdiana G. Masanja, Dept. of Mathematics, University of Dar-es-salaam, TANZANIA.
  - ii. Prof. Romanus O. Odhiambo, Dept. of Mathematics & Statistics, JKUAT, Nairobi, KENYA
  - iii. Dr. Charles Muyanja, Dept. of Food Science & Technology, Kampala UGANDA**Level:** East African Universities and Research Institutions  
**Value:** USD 28000  
**Source of Funds:** Sida/SAREC-through IUCEA.  
**Period:** 2005- 2009
- 2006 ANSTI grant (travel) worth US\$ 2000 to a conference in Botswana: *The SIXTH IASTED International Conference on Modelling, Simulation and Optimization* 11-13 September. Paper Presented: Estimation of Critical Streamflow Discharge Level using Quantile Regression Approach.

## Awards

- 1994 Australia International Development Scholarship ( For Master at the Macquarie University, Sydney, Australia)
- 9/9/2003: German Academic Exchange Service (DAAD) award ( For PhD research at the University of Kaiserslautern, Germany).
- 22/3/2007: German Academic Exchange Service (DAAD) Research visit Fellow, September 2007 to December 2007. Visited the University of Kaiserslautern, Germany as a Research Fellow working on Bootstrap of Quantiles.