

## CURRICULUM VITAE

William O. Okelo-Odongo, Ph.D., M.Sc., B.Sc.

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**Phone:** 254 –733-805246 **email:** [wokelo@uonbi.ac.ke](mailto:wokelo@uonbi.ac.ke), [okelow@gmail.com](mailto:okelow@gmail.com),

**Birth:** 31 January 1953. Kisumu District, Kenya      **Citizenship:** Kenyan

**Career:** Teaching and Research in Computing Science and Technology

**Areas of Interest:** Distributed Computing Architectures and Technologies; Computer Network Security; Cyber-Physical Systems.

**Current Appointment:** Director School of Computing and Informatics, and Associate Professor of Computer Science, University of Nairobi

### **Profile:**

Professor W. Okelo-Odongo is an Associate Professor of Computer Science at the University of Nairobi and is also currently the Director of the School of Computing and Informatics.

He holds a Bachelor of Science degree in mathematics from Northwest Missouri State University, Master of Science degree in electrical engineering from Stanford University and Ph.D. in computer science from University of Essex.

His current area of research specialization and interest are distributed computing architectures, computing systems security and cyber-physical systems.

He has taught at undergraduate and postgraduate levels for over 30 years. He has supervised 7 Ph.D. students and over 30 Master of Science students to completion.

He has over 20 publications in refereed journals and conference proceedings, has lead and participated in many curriculum development activities at university level, and led funded research and consultancy activities in the university.

## **A. University Education:**

1. **1984 to 1986:** University of Essex, U.K. Undertook research studies leading to the degree of Ph.D. in Computer Science. *Doctor of Philosophy* degree awarded in June 1987. Thesis title: "A Broadcast Radio Based Computer Network for Rural Areas".
2. **1976 to 1978:** Stanford University, California. Major in Electrical Engineering with concentration in Computer and Communication Systems. *Master of Science* degree awarded in June 1978.
3. **1972 to 1975:** Northwest Missouri State University, Missouri. Major in Mathematics, Minor in Physics. *Bachelor of Science* degree awarded in December 1975 with Highest Honours.

## **B. Employment history:**

1. **October 2007 to Present:** *Director*, School of Computing and Informatics, University of Nairobi. Academic and administrative leadership and management of the university academic unit charged with teaching and research in computing and ICT.
2. **August 2006 to Present:** *Associate Professor of Computer Science*. University of Nairobi. Teaching of undergraduate computer science courses, postgraduate diploma and M.Sc. in Computer Science courses. Supervision of postgraduate and undergraduate projects. Supervision of Ph.D. students. Research in Computer Science. Other academic and administrative duties.
3. **March 1994 to August 2006:** *Senior Lecturer in computer science*. University of Nairobi.. Teaching of undergraduate computer science courses, postgraduate diploma and M.Sc in Computer Science courses. Master of Science thesis supervision. Supervision of postgraduate and undergraduate projects. Supervision of Ph.D. students. Research in Computer Science. Other academic and administrative duties.
4. **March 1987 to March 1994:** *Lecturer in computer science*, University of Nairobi. Teaching of undergraduate computer science courses, postgraduate diploma in Computer Science courses.
5. **October 1980 to March 1987:** *Assistant Lecturer in computer science*. University of Nairobi. Teaching of computer programming courses to undergraduate students. Teaching of postgraduate diploma courses and supervision of students' computer systems projects.
6. **November 1978 to October 1980:** *Project Engineer*, EG&G Geometrics, Inc., Sunnyvale California. (Airborne geo-surveyors). Implementation of real-time computer programs on micro and mini-computers dedicated to instruments control and data acquisition.
7. **May 1977 to February 1978:** *Computer Programmer*, Roberts and Dybdahl, Inc., Iowa, USA. Development of commercial application programs.

## **C. Postgraduate Students Supervision**

### **C.1 Ph.D. Research Thesis Supervised to Completion**

1. **Hillary Thadias Nyang'anga.** "A Computer Aided Artificial Intelligent System for Diagnosis and Management of Maize Diseases in Kenya". Department of Agricultural Economics, University of Nairobi. Graduated December 2015.
2. **Stephen Ng'ang'a Mburu.** "A Model for Design and Deployment of mHealth solutions fit for Low resource Settings: a case of Maternal Care", School of Computing and Informatics, University of Nairobi. Graduated 2014.
3. **Austin Owino Wetoyi.** "Dynamic Subset Difference Revocation using One Binary Tree", School of Computing and Informatics, University of Nairobi. Graduated 2014.
4. **Andrew Mwaura Kahonge.** "User Behaviour Modeling in web application Security Monitoring: a Case of University Students and staff Portal", School of Computing and Informatics, University of Nairobi. Graduated 2013.
5. **David Musyimi Nzuki.** "A Critical Diffusion Analysis of Enterprise Resource Planning Systems", School of Business, Kenyatta University. Graduated 2012.
6. **Elisha Toyne Opiyo Omulo.** "Multi-Agent System Scheduler in a Dynamic Environment using a Load Optimization Strategy", School of Computing and Informatics, University of Nairobi. Graduated 2012.

### **Ph.D. Research Thesis Supervision (submitted and undergoing examination)**

1. **Geoffrey Wekesa Chemwa.** "Optimising Security in Public Key Infrastructure Solutions for E-Government: A Decision Optimisation Approach". School of Computing, University of Nairobi. Submitted December 2015.
2. **Winston Ojenge.** "Prediction of T.V. Spectrum Holes for Cognitive Radio Using ANN", School of Computing, Technical University of Kenya. Submitted April 2016.

### **Ph.D. Research Thesis Supervision (ongoing)**

1. **Eric M. Ayienga.** "Distributed Resource Allocation with Quality of Service (QoS) Guarantees", School of Computing, University of Nairobi. Expected submission in August 2016.
2. **Christine A. Ronge,** "Dynamic Location Management of Web Services within Federated Networks", School of Computing, University of Nairobi. Expected submission in October 2016.

3. **Peter Okech Odhiambo.** “Assessment of Inherent Diversity in Computer-based Safety-related Systems “,School of Computing, University of Nairobi. Expected submission in December 2016.
4. **David Mwathi Gitonga.** “Secure Wifi Authentication and Access Control Framework for University Networks in Kenya”, School of Computing, University of Nairobi. Expected submission in September 2016.
5. **Collins Oduor Ondiek.** “Software as A Service (SAAS) Adoption for The Development of Small and Meduim Size Entreprises (SMEs)”, School of Computing, University of Nairobi. Expected submission in July 2016.
6. **Kennedy Kibet Ronoh.** “Scheduling and Geolocation Database Congestion Control in TV White Space Networks with Mobile White Space Devices”, School of Computing, University of Nairobi. Expected submission in July 2017.

## **C.2 M.Sc. Students Projects Supervision**

Over 30 students’ projects successfully supervised for the degrees of M.Sc. Information Systems, M.Sc. Computer Science and M.Sc. Applied Computer Science, M.Sc. Distributed Computing Technology.

### **Selected M.Sc. Projects supervised to Completion**

1. **Patrick Wachira Waweru.** “Parking Management and Mapping System Based on Wireless Sensor Networks”, M.Sc. Distributed Computing Technology, University of Nairobi. Graduated December 2015.
2. **Nicholas Mwaniki Musee.** “An Academic Certificate Verification System Based on Cloud Computing Environment”, M.Sc. Computer Science, University of Nairobi. Graduated December 2015.
3. **Alfayo Oyugi Adede.** “Implementing Data Integrity and Confidentiality in Mobile Phone Based cyber Foraging System”. M.Sc. Computer Science, University of Nairobi. Graduated December 2014.
4. **Frankline Makokha.** “A Comparative Study of Two Dynamic Load Balancing Techniques as a Means to Increase Performance in Shred Memory Parallel Computing”, M.Sc. Computer Science, University of Nairobi. Graduated December 2014.
5. **Peter Maingi Muia.** “A Public Key Infrastructure (PKI) for Higher Education Institutions in Kenya”, M.Sc. Computer Science, University of Nairobi. Graduated December 2014.
6. **Felix Agik Osongi.** “An Agent-based model of a Responsive Network Monitoring System for Internet Service Providers”, M.Sc. Computer Science, University of Nairobi. Graduated December 2014.
7. **Duncan Owino Mwamba.** “Distributed SMS System for Police Security Enhancement”, M.Sc. Computer Science, University of Nairobi. Graduated August 2014.

8. **Simon Kinuthia Ngungi.** “A hybrid Model Driven Scheme for Quality of Service in Wireless Machine type Communication Networks ”, M.Sc. Computer Science, University of Nairobi. Graduated August 2014.
9. **John Nyagitari Bosire.** “Determinants for Internet Protocol Version 6 (IP6) Adoption: A Study of Internet Service Providers in Kenya”, M.Sc. Information Systems, University of Nairobi. Graduated August 2013.
10. **Violet L. Masava.** “An Electronic Government Integrated System Using Service Oriented Architecture (SOA)”, M.Sc. Computer Science, University of Nairobi. Graduated August 2013.
11. **Kellen Sumwiza.** “Road Accident Reporting, Locating and Responding System using GIS and Wireless Technologies: Case Study of Kigali City”, M.Sc. Computer Science, University of Nairobi. Graduated August 2013.
12. **Mack Mbock Ogonji.** “Modeling and Simulating Insider Cyber Security Threats using Psychosocial Factors”, M.Sc. Computer Science, University of Nairobi. Graduated December 2013.
13. **Martin Kamau Karanja,** “Modeling Mobile Video Streaming Surveillance System with SMS Alert”, M.Sc. Information Systems, University of Nairobi. Graduated December 2013.
14. **Juliet Chebet Moso.** “Maximizing Lifetime of Wireless sensor Networks Using Distributed Scheduling Algorithms with Adjustable Sensing Range”, M.Sc. Computer Science, University of Nairobi. Graduated August 2011.
15. **B. F. Mwangi Chogi.** “Integrating Health Management Information Systems for Patient Referrals: A Case of Kenyatta Referral Hospital and the Nairobi Metropolitan Hospitals”, M.Sc. Information Systems, University of Nairobi. Graduated August 2011.
16. **Patrick Gichunge Naivasha.** “Policy-based Enterprise Network Quality of Service Provisioning: Performance assessment”, M.Sc. Computer Science, University of Nairobi. Graduated August 2011.
17. **Kefa Mabiria Orina.** “Prototype Development of a Secure Tokenless Pre-paid System for Utilities”, M.Sc. Information Systems, University of Nairobi. Graduated August 2011.
18. **Philip Mwenja Mbugua.** “Biometric Model for Online Verification of a Large Client Base”, M.Sc. Computer Science, University of Nairobi. Graduated August 2011.
19. **David Ng’ang’a Mburu.** “Effects of Handoff on Network Capacity and Quality of Service: Kenya GSM Networks Case Study”, M.Sc. Information Systems, University of Nairobi. Graduated December 2011.
20. **Joseph Onyango Okiro.** “Routing Algorithm for Optimal Lifetime of Wireless Sensor Network”, M.Sc. Computer Science, University of Nairobi. Graduated December 2010.

## D. Publications

### D.1 Journal Publications

1. Osongi Felix Agik, **William Okelo-Odongo**, Elisha T.O.Opiyo, Bernard Manderick (2016). Agent-based Model of a Responsive Network Monitoring System for Internet Service Providers. *International Journal of Computer and Information Technology (IJCIT)*; accepted for publication April 2016
2. Abiud Wakhanu Mulongo, Elisha T. Opiyo Omulo, Elisha Abade, **William Okello Odongo**, Bernard Manderick, (2016). SLUM: Service Layered Utility Maximization Model to Guide Dynamic Composite Webservice Selection in Virtual Organizations. *Computer Science and Information Technology* 4(2): 48-71, 2016
3. W. Ojenge, **W. Okelo-Odongo**, P. Ogao, (2015). Comparing PSO and GA Optimizers in MLP to Predict Mobile Traffic Jam Times, *International Journal of Computer Science and Information Security (IJCSIS)*, Vol. 13, No. 10, October 2015
4. Winston Ojenge, **William Okelo-Odongo**, Patrick Ogao, (2015). Use of GA-Optimized NN to Predict DVB-T2 Receiver Spectrum Holes to Accommodate Burden GSM Voice Calls. *International Journal of Simulation Systems, Science & Technology*, Volume 16, Number 4, August 2015, pp. 12.1-12.9
5. Hillary Thadiaz Nyang'anga, **William Okelo-Odongo**, Fred I. Mugivane, Demesi, J. Mande, George T. Opande (2015). Farmers' Requirements in an Artificial Intelligent System for Diagnosis of Maize Diseases in Kenya. *IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)* e-ISSN: 2319-2380, p-ISSN: 2319-2372. Volume 8, Issue 10 Ver. II (Oct. 2015), PP 20-31 [www.iosrjournals.org](http://www.iosrjournals.org)
6. Hillary Thadiaz Nyang'anga1, **William Okelo-Odongo**, Fred I. Mugivane, John Demesi Mande4, George T. Opande, (2015). Extension Officers' Requirements in an Artificial Intelligent System for Diagnosis of Maize Disease, Kenya. *IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)* e-ISSN: 2319-2380, p-ISSN: 2319-2372. Volume 8, Issue 10 Ver. II (Oct. 2015), PP 13-19 [www.iosrjournals.org](http://www.iosrjournals.org)
7. Abiud Wakhanu Mulongo , Elisha T. Opiyo Omulo, **William Okelo Odongo**, (2015). A Hierarchical Multilayer Service Composition Model for Global Virtual Organizations, *Computer Science and Information Technology* 3(4): 91-104, 2015
8. Eric Masiga Ayienga, Elisha Toyne Opiyo, **William Okelo-Odongo**, and Bernard Manderick, (2014). Dynamic Channel Sharing Strategies through Game-theoretic Reinforcement Learning. *International Journal of Computer and Information Technology* (ISSN: 2279 – 0764) Volume 03 – Issue 02, March 2014, pp.306-314
9. Joseph Mutuku Ngemu, Elisha T. Opiyo Omulo, **William Okelo-Odongo** and Bernard Manderick, (2015) Student Retention Prediction in Higher Learning Institutions: The Machakos University College Case, *International Journal of Computer and Information Technology* (ISSN: 2279 – 0764) Volume 04 – Issue 02, March 2015, pp. 489-497
10. David Musyimi Nzuki, **William Okelo-Odongo**, (2015). Adoption of Enterprise Resource Planning Systems in Kenya: A Case of Selected Manufacturing Firms in Nairobi

Metropolitan, International Journal of Business, Humanities and Technology Vol. 5, No. 2; April 2015, pp.24-32

11. Horace Owiti, Elisha T. Opiyo Omulo, **William Okelo-Odongo** and Bernard Manderick, (2014). Game Theoretic Multi-Agent Algorithms for the Job Shop Scheduling Problem. International Journal of Computer and Information Technology (ISSN: 2279 – 0764) Volume 03 – Issue 06, November 2014, pp.1420-1427
12. Andrew Mwaura Kahonge, **William Okelo-Odongo**, Evans K. Miriti, Elisha Abade (2012). Web Security and Log Management: An Application Centric Perspective. Journal of Information Security, 2013, 4, 138-143 (Vol. 4 No. 3, 2013, pp. 138-143)
13. Andrew M. Kahonge, **William Okelo-Odongo**, Evans K. Miriti, (2012). Increasing Auditability in Web Application Security, International Journal of Electrical, Electronic and Computer Systems. Vol: 11 Issue: 2, December 2012.
14. **William Okelo-Odongo** (2006). Dynamic Priority Scheduling with the CAN MAC Protocol. African Journal of Science and Technology – Science and Engineering Series, vol. 7 no. 2, December 2006.

## D.2 Book Publications

1. **William Okelo-Odongo** Elisha T Opiyo Omulo, Eric M Ayienga, eds. Trends in Distributed Computing Applications: Real Life On-going Research Work. Nairobi. School of Computing and Informatics, University of Nairobi. 2014. Print ISBN: 978-9966-074-13-3
2. **William Okelo-Odongo** Elisha T Opiyo Omulo, Eric M Ayienga, eds. Distributed Computing Systems: Research and Applications with focus on Resource Sharing. Nairobi. School of Computing and Informatics. 2012. Print ISBN: 978-9966-21-330-3

## D.3 Book Chapters

1. Abiud W Mulongo , Elisha T. Opiyo Omulo, **William Okelo Odongo**. User Centric Integration of Remote Portlets using Presentation Oriented Web Services. Trends in Distributed Computing Applications: Real Life On-going Research Work. Nairobi. School of Computing and Informatics. 2014. Print ISBN: 978-9966-074-13-3, pp. 61-67
2. David Gitonga Mwathi , Elisha T. Opiyo Omulo, **William Okelo Odongo**. Wireless LAN (WLAN) Hacking Tools in Developing Countries. Trends in Distributed Computing Applications: Real Life On-going Research Work. Nairobi. School of Computing and Informatics, University of Nairobi. 2014. Print ISBN: 978-9966-074-13-3, pp. 125-136
3. Peninah J. Limo, Elisha T. O. Opiyo, **William Okelo-Odongo**. Cloud Computing Opensource IaaS Platforms. In Distributed Computing Systems: Research and Applications with focus on Resource Sharing. Nairobi. School of Computing and Informatics, University of Nairobi. 2012. Print ISBN: 978-9966-21-330-3, pp. 28-38
4. Solomon Thuo, Elisha T. O. Opiyo, **William Okello-Odongo**. Job Scheduling in Grid Computing using Simulated Annealing. Distributed Computing Systems: Research and Applications with focus on Resource Sharing. Nairobi. School of Computing and Informatics, University of Nairobi. 2012. Print ISBN: 978-9966-21-330-3, pp. 72-80

#### D.4 Conference Publications

1. Ronoh Kennedy, **Okello-Odongo W**, Kamucha George, Oduol Vitalice, (2015). TV White Spaces in Africa: Trials and Role in Improving Broadband Access in Africa; AFRICO 2015 Conference; also appears in IEEE Xplore Digital Library <http://ieeexplore.ieee.org/>
2. Ojenge, W, Afullo T, **Okello-Odongo W**, (2013). PSO of Neural Network for to Predict Busy Times of Cellular Traffic for Assignment to TV Channels by Cognitive Radio. 7th UKSim/AMSS European Modeling Symposium, EMS 2013, 20<sup>th</sup> – 22<sup>nd</sup>, November, 2013, Manchester UK. IEEE Xplore Digital Library: IEEE 2013. Print ISBN: 978-1-4799-2577-3-4. Pp. 48-52
3. Ojenge, W, **William Okello-Odongo**, Afullo T. 2013. Optimizing Neural Network for TV Idle Channel Prediction in Cognitive Radio Using Particle Swarm Optimization. :5th International Conference on Computational Intelligence, Communication Systems and Networks (CICSyN2013), Madrid, Spain. 5<sup>th</sup> – 7<sup>th</sup>, June 2013. IEEE Xplore Digital Library: IEEE 2013. Print ISBN: 978-1-4799-0587-4. Pp. 25-29.
4. Collins O. Ondiek, **William Okello-Odongo**, Elisha T. O. Opiyo 2012. Adoption of cloud computing architecture-software as a service (saas) for the development of micro, small and medium size enterprises (msmes) in Kenya. In the proceedings of the Unesco-Hp Brain Gain Workshop on Distributed Systems, 29th August 2012, at Kenya School of Monetary Studies in Nairobi, Kenya.
5. Eric Ayienga , Elisha Opiyo , **William Okello-Odongo**, Bernard Manderick 2013. Game Theory and Learning at the Medium Access Control Layer for Distributed Radio Resource Sharing in Random Access Wireless Networks. 5th International Conference on Agents and Artificial Intelligence (ICAART 2013), 15th - 18th February 2013, Barcelona, Spain.
6. Elisha T. O. Opiyo, Eric Ayienga, Bernard Manderick, **William Okello-Odongo**, Ann Nowé, (2011). Agent-based Scheduler for Unrelated Parallel Machines using a load balancing heuristic. In UNESCO-HP BRAIN GAIN INITIATIVE Workshop (in conjunction with the 2nd Kuwait Conference on e-Services & e- Systems), April 5-7, 2011.
7. Samuel N. Gatiti, M. Muchiri, Elisha T. O. Opiyo, **William Okello-Odongo**, (2011). A Decision Support Systems tool for Forest Biodiversity, Conservation and Climate Change: A Case Study of *Grevillea robusta* Tree in Kenya. In International Conference on Tropical Forest Resources. Masinde Muliro University of Science and Technology (MMUST), Kenya. June 6-9, 2011.
8. Elisha T. O. Opiyo, Eric Ayienga, Bernard Manderick, **William Okello-Odongo**, Ann Nowé, (2011). “Naïve reinforcement learning as a guide for path discovery”. In The ORSEA Conference 2011, 13th and 14th October 2011, Nairobi, Kenya.
9. Tirus Mutoru, Elisha T. O. Opiyo, **William Okello-Odongo** (2011). Agent based Real-time Continuous Auditing. The ORSEA Conference 2011, 13th and 14th October, Nairobi, Kenya.
10. Zablon O. Ochomo, Elisha Opiyo, **William Okello-Odongo**, (2010). Agent Based Model for Localized Secure Payment Systems Integration. In *Strengthening the Role of ICT in*



*Development* (2010). Vol. VI pp367-377, ISBN 978-9970-25-015-8. (Eds) Kizza J.M., Lynch K., Nath R., & Aisbett J.

11. Erick Ayienga, Opiyo Elisha T. O., **William Okelo-Odongo**, Katherine Getao, Bernard Manderick, (2009). The El Farol Bar Problem Approach to Resource Allocation in Ad Hoc Wireless Networks. Proceedings of the International Conference on Research for Sustainable Development and Institutional Capacity Building, 2nd to 5th February 2009, Naivasha, Kenya
12. Opiyo Elisha T. O., Erick Ayienga, Katherine Getao, Bernard Manderick, **William Okelo-Odongo**, Ann Nowé (2009). A Load Balancing Heuristic for Agent-based Parallel Machine Scheduling. Proceedings of the International Conference on Research for Sustainable Development and Institutional Capacity Building, 2nd to 5th February 2009, Naivasha, Kenya
13. Opiyo Elisha T. O., Erick Ayienga, Katherine Getao, **William Okelo-Odongo**, Bernard Manderick, Ann Nowé, (2008). Dynamic Resource Allocation: A comparison of First Price Sealed Bid and Vickrey Auction Mechanisms in non-pre-emptive, no failure situations. Proceedings of 4th Annual International Conference on Computing and Research- SREC08}, Makerere University, Uganda, 3-6 August, 2008.
14. Opiyo Elisha T. O., Erick Ayienga, Katherine Getao, **William Okelo-Odongo**, Bernard Manderick, Ann Nowé, (2008). Searching for Optimal Schedule for Parallel Machines Using an Agent-based Technique. Proceedings of the 4th International Operations Research Society of East Africa (ORSEA) Conference, 23rd-24th Oct 2008, Nairobi, Kenya.
15. Opiyo Elisha T. O., Erick Ayienga, Katherine Getao, **William Okelo-Odongo**, Bernard Manderick, Ann Nowé (2008). Game Theoretic Multi-Agent Systems Scheduler for Parallel Machines with Fixed Parameters. Proceedings of the Fourth International 4th Annual International Conference on Computing and Research- SREC08, Makerere University, Uganda, 3-6 August, 2008.
16. Opiyo Elisha T. O., Erick Ayienga, Katherine Getao, **William Okelo-Odongo**, Bernard Manderick, Ann Nowé (2007). Modeling a Multi-Agent Systems Scheduler for Grid Computing Using the Gaia Methodology. Proceedings of the first International Conference in Computer Science and Informatics, School of Computing and Informatics, University of Nairobi, Kenya, 5-9 February, 2007.
17. Opiyo Elisha T. O., Erick Ayienga, Katherine Getao, **William Okelo-Odongo**, Bernard Manderick, Ann Nowé (2006). Computing research challenges and opportunities with grid computers. SREC'05 Post Conference Publication, published as a chapter in the book titled "Measuring Computing Research Excellence and Vitality". Fountain Publishers, Kampala. Editors: Ddembe Williams and Venansius Baryamureeba. 2006
18. Erick Ayienga, Opiyo Elisha T. O., **William Okelo-Odongo**, Katherine Getao, Bernard Manderick, Ann Nowé (2006). Multiagent Systems for Bandwidth Optimization in Wireless Grids. 2nd Annual International Conference on Sustainable ICT Capacity in Developing Countries SREC06, August 6-9, 2006, Makerere University, Kampala, Uganda
19. Erick Ayienga, Opiyo Elisha T. O., Katherine Getao, **William Okelo-Odongo**, Bernard Manderick, Ann Nowé (2006). Multi-agent Systems for Bandwidth Optimization in Wireless

Grids. In second annual international conference on sustainable capacity in developing countries - SREC06, AUGUST 6-9, 2006, Kampala, Uganda.

20. Opiyo Elisha T. O., Erick Ayienga, Katherine Getao, **William Okelo-Odongo**, Bernard Manderick, Ann Nowé (2008). Multi-agent systems scheduler and open grid computing standards. 2<sup>nd</sup> annual international conference on sustainable capacity in developing countries - SREC06, AUGUST 6-9, 2006, Kampala, Uganda.

## **E. Funded Research and Consultancy Projects:**

1. 2010: Project “IBM Faculty Award for project: SCI-IBM Mobile Application Development”. USD 20,000
2. 2010-2013: Project title “Diasporas and distributed computing for development: Towards University of Nairobi centre of Excellence in Distributed Computing and Modelling”. Funded by UNESCO-HP Brain Gain initiative. USD45,000 Principal Investigator.
3. July 2011-Dec 2014: A project title: “Kenya Centre of Excellence Partner Institution for ITES/BPO Industry – Technology”. A collaboration between UoN and Kenya ICT board. World Bank funding USD700,000. Project successfully implemented and ongoing. Team leader.
4. April –June 2012: Consultancy project title: “ICT Curriculum Development for Citizenry, Technical and End User Personnel”. Client: the Directorate of e-Governance, Government of Kenya. Value: USD70,000. Project Leader.
5. September 2016 – 2020 (expected): Project title: “Human Resources for Health (HRH) Kenya Program”. In partnership with Management Sciences for Health, Inc., (MSH), USD 200,000. Will contribute to the overall goal of optimizing workforce development and production efforts by strengthening the national Human Resource Information System (iHRIS) as a decision and policy making tool at the national and county level, making the health work force more efficient, effective and market driven.

## **F. Conferences Attendance**

Have attended many academic and professional conferences including the recent ones sampled below:

1. 2<sup>nd</sup> Annual International Conference on Sustainable Capacity in Developing countries - SREC06, AUGUST 6-9, 2006, Kampala, Uganda.
2. First International Conference in Computer Science and Informatics, School of Computing and Informatics, University of Nairobi, Kenya, 5-9 February, 2007.
3. Fourth International 4th Annual International Conference on Computing and Research- SREC08, Makerere University, Uganda, 3-6 August, 2008.
4. International Conference on *Research for Sustainable Development and Institutional Capacity Building*”, 2nd to 5th February 2009, Naivasha, Kenya

5. Unesco-Hp Brain Gain Workshop on Distributed Systems, 29th August 2012, at Kenya School of Monetary Studies in Nairobi, Kenya.
6. 5th International Conference on Computational Intelligence, Communication Systems and Networks (CICSyN2013), Madrid, Spain. 5<sup>th</sup> – 7<sup>th</sup>, June 2013.
7. UNESCO-HP Brain gain Initiative Phase 2 project conclusion conference 10-11 September 2013, Paris France
8. IST Africa 2010 Conference, 19 to 21 May 2010, Durban, South Africa. On this occasion, we presented the latest and next developments of the Brain Gain Initiative in Workshop 3e "Emerging e-infrastructures for Science in sub-Saharan Africa".
9. The Ministerial workshop on “Leadership Capacity-Development for Improved Delivery of Public Services in Africa using Information and Communication Technologies”. The Workshop took place at the premises of the Headquarters of the United Nations Economic Commission for Africa in Addis Ababa, Ethiopia, from 23 to 25 July 2012. Our presentation was on “OSS for Governance and Public Administration: Strategic role of Universities: Approach by the University of Nairobi “

## **G. Postgraduate Thesis Examinations**

1. *Ph.D Thesis External examiner: Thesis Title:* “An Assessment of the Potential of Internet Protocol Virtual Private Network (IP-based VPN) Connectivity in Tanzania”, *Author:* Fatuma Simba Ikuja, University of Dar es Salaam Faculty of Science, December 2014
2. *Ph.D Thesis External examiner: Thesis Title:* “On Enhancing Entity Relationship Modeling Tools with Intelligent Trap Identifiers”, *Author:* Patrick Kagenda, Institute of Computer Science, Makerere University, Uganda, December 2014
3. *Ph.D. Thesis Internal Examiner: Thesis Title:* “Support Vector Machines: A Critical Empirical Evaluation”, *Author:* Peter Waiganjo Wagacha, School of Computing and Informatics, University of Nairobi, April 2003.
4. *M.Sc. Thesis Internal Examiner: Thesis Title:* “Development of a Microcomputer-controlled Data Acquisition System for Laser Based Instruments”, *Author:* Robinson Ndegwa Gathoni, Faculty of Science, University of Nairobi, March 2003
5. *M.Sc. Thesis Internal Examiner: Thesis Title:* “Development of an Enhanced Graphics Terminal Based on the  $\mu$ PD7220A Graphics Display Controller”, *Author:* John W. Kimaru, Faculty of Science, University of Nairobi, 2000.
6. *M.Sc. Thesis Internal Examiner: Thesis Title:* “Development of an Enhanced Graphics Terminal Based on the  $\mu$ PD7220A Graphics Display Controller”, *Author:* John W. Kimaru, Faculty of Science, University of Nairobi, 2000.
7. *M.Sc. Thesis Internal Examiner: Thesis Title:* “Design and Development of an FPGA Based DDFS Signal Generator”, *Author:* Walter Maina Muteithia, Faculty of Science, University of Nairobi, 2013.

8. *M.Sc. Thesis Internal Examiner: Thesis Title: “Design and Development of an FPGA Based DDFS Signal Generator”, Author: Walter Maina Muteithia, Faculty of Science, University of Nairobi, 2013.*
9. *M.Sc. Thesis Internal Examiner: Thesis Title: “A Simulation Based Methodology for the Development of Embedded-Analogue-Mixed-Signal System using SystemC-AMS”, Author: Benjamin Mulwa Kathale, Faculty of Science, University of Nairobi, 2015.*

## **H. Curriculum Development**

Have participated in many academic programmes curricula development and review activities, including:

1. B.Sc Computer Science, University of Nairobi, 1992 and subsequent 3 revisions.
2. M.Sc. Information Systems, University of Nairobi, 1998 and subsequent revision.
3. Regional (East Africa) M. Sc. in Computer Science, Makerere University, University of Nairobi and University of Dar es Salaam, 2004.
4. M. Sc. Applied Computer Science, University of Nairobi. 2003
5. M. Sc. Computer Science, University of Nairobi, 2005
6. M.Sc. in Applied Computing, M. Sc. Computational Intelligence, M. Sc. Distributed Computing Technology, 2013
7. Internal Reviewer, Bachelor of Science in Computer Science, Presbyterian University of Kenya. July 2002.
8. Reviewer for CHE,
  - a. Proposed Curriculum for a Major in Networks and Communication Systems, University of East Africa, Baraton, September 2002.
  - b. Proposed Curriculum for B.Sc. Computer Science submitted by the Proposed Augustana University of Kenya, July 2005
  - c. Proposed Curriculum for B.Sc. Information Technology, submitted by the Kenya College of accountancy, August 2005
  - d. Proposed Curriculum for B.Sc. Information Technology, submitted by the Kenya College of accountancy university, August 2015
9. Seminar on “Quality Assurance of Academic programmes”, a two weeks training course organized by IUCEA-DAAD, at Carl von Ossietzky Universität Oldenburg, Germany, 2009
10. Undertook Self-assessment of and submitted to peer review of the University of Nairobi Bachelor of Science Computer Science programme applying the IUCEA-DAAD Academic Programmes Quality assurance model.
11. Development of curriculum for a degree in Computing Science and Technology for the proposed Open University of Kenya. April 2015

## **I. Administrative Responsibilities**

Has been the Director of the School of Computing and Informatics. The Director is both the academic and administrative head of the academic unit. A number of successes have been achieved during this period with support from very dedicated staff:

1. **Staff Development:** Academic staff in post improved from 4 Ph.D. and 16 M.Sc. in 2008 to 16 Ph.D and 5 M.Sc. in 2016.
2. **Quality of programmes:** Continual review of undergraduate and postgraduate programmes involving stakeholders.
3. **Increase access:** Manageable growth in students registered in both undergraduate programme and postgraduate programme.
4. **Throughput:** Significant increase in completion rate of Masters of Science and the Ph.D. programmes.
5. **Research:** Significant increase in the research taking place in the school. Development of Research Strategic Plan for the School.
6. **Incubation:** Establishment of the C4DLab innovation and incubation centre.
7. **Laboratory:** Provision and continuous upgrade of quality laboratories for undergraduate and postgraduate students. Sourced donation of six server IBM blade server system, 4 HP Proliant servers acquired through the UNESCO-HP Brain Gain project and other projects.

## **J. External Examination**

Have been external examiner for a number of programmes at various times including the following:

1. Faculty of Science Jomo Kenyatta University College of Agriculture and Technology,
2. Faculty of Science Egerton University.
3. Faculty of Science Maseno University.
4. Faculty of Information Sciences Moi University.
5. Department of Mathematics Faculty of Science, Kenyatta University
6. Institute of Computer and Information Technology, Jomo Kenyatta University of Agriculture and Technology.
7. Continuing Education Programme, Jomo Kenyatta University of Agriculture and Technology.
8. Support to Regional Institutions: Taught the following courses to M.Sc. ICT National University of Rwanda: Computer Network Management, Real-time Systems

## **K. Referees:**

Professor R. O. Genga, Department of Physics, University of Nairobi  
 Professor B. W. Ogana, School of Mathematics, University of Nairobi

**Signed:**

W. Okelo-Odongo