

CURRICULUM VITAE

Samuel Gathuka Waweru

OND(TUK), HND(TUK), PMC(KYOTO), MSc.(JKUAT), PhD ENG(MMUST), FIET

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PROFESSIONAL BACKGROUND:

AUGUST 2017 – TO DATE

Director TVET – In charge of coordinating and overseeing all TVET activities in Masinde Muliro University of Science & Technology (MMUST). This includes development and accreditation of curricula for all TVET Programmes, establishing linkages with other TVET institutions and developing funding proposals

JUNE 2012 – TO DATE

Senior Lecturer at Masinde Muliro University of Science & Technology (MMUST), Civil and Structural Engineering Department. Involved in teaching and supervising undergraduate and postgraduate students, consultancy and research work.

APRIL 2005 – APRIL 2012:

Lecturer at Masinde Muliro University of Science & Technology (MMUST), Civil and Structural Engineering Department. Involved in teaching: Soil mechanics, Highway Engineering and Construction Management courses. Also involved in Research work, Supervision of Final year projects and Academic advisory. Consultancy work: EIA for road projects and an active member of MMUST construction committees.

JANUARY 1999 – APRIL 2005:

Civil Engineer - Kajima Corporation of Japan, Kenya District Office – Nairobi. In charge of Project management, Project promotions and Investigation work for various Civil Engineering projects including; Roads & Bridges, Irrigation works, Water supply and Hydro-power dams, within Kenya and the Eastern Africa region. Also involved in the preparation of Grant Aid request forms,

- Tendering and preparation of Contract Documents.
- MAY 1989 – DECEMBER 1998: **Lecturer** – Civil Engineering Dept. JKUAT. Teaching Soil Mechanics, Foundations and Highway Engineering. Involved also with Curriculum Development and Students' Industrial attachments. Research work on Black cotton/Red coffee soils and Consultancy work for several JICA Projects including Geotechnical site investigations and Solid waste management.
- JANUARY 1987 – APRIL 1989: **Lecturer** at the Kenya Water Institute (KEWI). Involved in the teaching of several Civil and Water Engineering subjects, Research activities and Curriculum Development.
- JANUARY 1986 – DECEMBER 1986: **Research Assistant** with the Ministry of Water Development. Research Division – Researching on Slow & Rapid Sand Filters.
- AUGUST 1981 – DECEMBER 1985: **Engineering Assistant** with the Ministry of Water Development - Planning & Design section and Construction & Contract section.
- ACADEMIC BACKGROUND:**
- JANUARY 1974 – DECEMBER 1977: Nanyuki High School - Nanyuki
E.A.C.E. – Division I
- JULY 1978 – DECEMBER 1978: Ministry of Water Development
Kenya Water Institute (KEWI)
Pre-selection course in Water Engineering.
- MAY 1979 – JULY 1981: Technical University of Kenya (TUK):
Ordinary National Diploma (**OND**)
Civil Engineering - Credit Pass.
- JANUARY 1983 – DECEMBER 1985: Technical University of Kenya (TUK):
Higher National Diploma (**HND**)
Civil Engineering - Credit Pass.
- JANUARY 1995 – SEPTEMBER 1995: Kyoto University, Japan: Pre-Masters Course
(**PMC**) Research Work (JICA Programme)
- MARCH 1996 – NOVEMBER 1998: JKUAT: Master of Science (**MSc.**)
Degree in Civil Engineering.
- JUNE 2010 – DECEMBER 2016: MMUST – Doctor of Philosophy (**PhD**)
Thesis Title: “Factors leading to Structural Failure of the Hot Mix Asphalt Pavement

along Timboroa – Malaba Class “A’ Road in Kenya” (Sector - Highway Engineering).

RESEARCH PUBLICATIONS:

1. REFEREED JOURNALS

1. Mugada B.A., Onchiri R.O. and **Waweru S.G.** (2017). Bending Stress Response of Strap Beams. *International Journal of Science and Research (IJSR) Vol 6 Issue 11 June 2017.*
2. **Waweru S.G.**, Onchiri R.O. and Masibayi E.N. (2016). Factors causing Structural Failure of the Flexible Pavement along Timboroa to Malaba Road in Kenya. *International Journal of Civil Engineering and Technology (IJCIET) Volume 7, Issue 4, July-August 2016, pp. 533–538.*
3. **Waweru S.G.**, Onchiri R.O. and Masibayi E.N. (2016). Rutting Failure on Pavement Layers along Timboroa to Eldoret Road Section in Kenya. *International Journal of Civil Engineering Research. ISSN 2278-3652 Volume 7, Number 1 (2016), pp. 79-89.*
4. Kanda E.K., Taragon J.K., **Waweru S.G.** and Onchiri R (2014). Assessment of Pollution Status of River Nzoia using Physic-Chemical Characteristics. *Journal of Science Technology Education and Management. Volume 6, No. 1&2, 24 – 32.*
5. F.S. Isaac, R.O. Onchiri, N.K. Maritim and **S.G. Waweru** (2013). Investigation of Pozzolanic Characteristics of Municipal Solid Waste Ash in Soil Stabilization. *International Journal of Civil Mechanical Engineering. ISSN 2250-3218 Volume 3, Number 1 pp. 1- 8.*
6. Mungathia, J.K, Thumbi, G.M and **Waweru S.G** (2012). Removal of Heavy Metals from Industrial Wastewater using Washed Quarry Dust (WQD). *Journal of Science Technology Education and Management. Vol.5 Nos. 1 & 2 Sept.2012.*
7. R.O. Onchiri and **S.G. Waweru** (2011). Water Quality Assessment in Kakamega Municipality. *International Journal for Disaster Management & Risk Reduction, Vol.3.No.3, 2010. pp. 51-58. ISSN No.1992-2744.*
8. G.M. Thumbi, **S.G. Waweru** and R.O. Onchiri (2011). Horizontal subsurface flow constructed wetland performance evaluation using first-order kinetics. *International Journal for Disaster Management & Risk Reduction, Vol.3.No.3, 2011. pp.109-120. ISSN No.1992-2744.*
9. R.O. Onchiri, F. Sanewu and **S. Waweru** (2010). Solid Waste Disposal in Kenya: Case study of Kakamega Municipality. *International Journal for Disaster Management & Risk Reduction. Vol 2 No.2 March 2010. pp.1 -7*
10. **Waweru S.G.** and Kimura M. (1996). The Engineering Properties and Behaviour Characteristics of Toyoura Standard Sand. *Journal of Civil Engineering, JKUAT, Vol. II pp. 77 – 88, November 1996.*
11. **Waweru S.G.** and Kimura M. (1995). The Physical and Mechanical Properties of a Typical Japanese Clay. *Journal of Civil Engineering, JKUAT, Vol. I pp. 31 – 36 October 1995.*

2. CONFERENCE PROCEEDINGS

1. **Waweru S.G.** and Kanda E.K. (2012). Municipal Solid Waste Management in Kenya: A Comparison of Middle Income and Slum Areas. *Proceedings of the International Conference on Diasater Risk Reduction And Conflict Resolution For Sustainable Development.MMUST, Kenya, pp185 – 190, 18th – 20th July 2012.*
2. R.O. Onchiri, **S.G. Waweru** and O.H. Otworu (2011). Sustainable Solid Waste Management System for Counties in Kenya (a case of Kisii Municipality) Engineers

- International Conference 2011 on theme “Engineering Better Counties and Cities for Better Living” 11th – 13th May 2011
3. **Waweru S.G.** and R.O. Onchiri (2010). Evaluation of Structural Failure in Flexible Pavements. *Proceedings of the 1st Engineering, Science and Technology Conference, Kakamega, Kenya. (9th – 11th June 2010) pp. 192 - 196.*
 4. B.W.Sabuni, **S.G. Waweru**, M.K. Mukangula and G. Mwasame (2010). Management of Infrastructure Development in Public Institutions: Case of In-House Construction at Masinde Muliro University of Science and Technology. *Proceedings of the 1st Engineering, Science and Technology Conference, Kakamega, Kenya. pp 126 – 131, June 2010.*
 5. **Waweru S.G.** and Namusai E.M. (2009). Forest Fire Disaster Management in Kenya. *Proceedings of the Workshop on Environmental Fires at Masinde Muliro University of Science and Technology, Kakamega, Kenya. pp. 9 – 15, June 2009.*
 6. B. K. Rop, N.K. Maritim and **S.G. Waweru** (2007). Hydrocarbon Prospects Under The Lotikipi Basin, North West Kenya, Based On Gravity And Seismic Data. *Proceedings of the 3rd Annual International Conference, Moi University, Eldoret, 31st July - 4th August 2007.*
 7. Sabuni B.W., **Waweru S.G.** and Omuterema S. (2006). Evaluation of brick making technologies in Western Kenya. *Proceedings of the 1st International Conference on Disaster management & Human security in Africa.* pp. 352 – 357, October 2006.
 8. **Waweru S.G.**, Mburu N. and Waswa G.W (2006). Environmental hazards in the developing countries. *Proceedings of the 1st International Conference on Disaster management & Human security in Africa,* pp. 363 -368, October 2006.
 9. S.I. Fundi, R.O. Onchiri, N.K. Maritim, K. Shepherd and **S.Waweru** (2002). Investigation of pozzolanic characteristics of municipal solid waste ash in soil stabilization. *Proceedings of the 19th Engineers international conference held at Kenyatta international conference centre 9th to 12th May 2002. Nairobi, Kenya*
 10. **Waweru S.G.** and Kimura M. (1998). Problematic Soils in Kenya. *International Symposium on Problematic soils,* Vol. I pp. 325 – 328 Sendai, Japan, October 1998.
 11. Kimura M. and **Waweru S.G.** (1995). Failure Mechanism on a Lateral Loaded Concrete Pile by Centrifuge. *Proceedings of 30th Japanese National Conference on Soil Mechanics and Foundation Engineering,* Vol. 3 pp. 1495 – 1498 Kyoto, Japan September 1995.

3. BOOKS AND BOOK CHAPTERS

1. **Samuel G. Waweru** and Edwin K. Kanda (2020). University book - Research Methods in Engineering. O’learn Publishers, Nairobi, Kenya (in press).

CURRENT RESEARCH:

1. Improvement of Brick Making Technology in Western Kenya.
2. Use of Bamboo as a Structural Element for Low Cost Housing
3. Factors leading to Structural Failure of Flexible Pavements
4. Stabilization of Sub-grade soils using Bagasse Ash.

ACADEMIC ASSIGNMENTS

1. External Examiner – University of Eldoret (Department of Technology Education) from 2019 to Date.
2. MSc Thesis External Examiner – Jomo Kenyatta University of Agriculture and Technology. Thesis Title: “Causes of Cracks on Recently Constructed Flexible Pavements in Kenya” by Benjamin Kithee Chamia. March 2020.

3. MSc Thesis External Examiner - University of Eldoret. Thesis Title: “Challenges Facing University Trained Structural Engineers in the Construction Industry in Kenya” by Bett Barnabas. October 2019.
4. MSc Thesis Internal Examiner MMUST. Thesis Title: “Simulation of Pressure and Water Quality within Kimilili Water Supply System using EPANET” by Christopher Bwire. December 2015.
5. Referee – Journal of Agriculture, Science and Technology, JKUAT.

POSTGRADUATE SUPERVISION

1. Benjamin Asin Mugada – MSc in Structural Engineering. Thesis title: “A review on the structural response of strap beam” (Completed 2018).
2. Kingori Monica Nyambura – MSc in Disaster Preparedness and Engineering Management. Thesis title: “Factors Contributing to Collapse of Storey Buildings in Kiambu County, Kenya” (Completed March 2021).

OTHER DUTIES:

1. Director – Technical Vocational Education and Training (TVET), MMUST
2. Member - Project Team for Proposed Engineering and TVET Complex at MMUST
3. Member – Deans Election Board, MMUST
4. Member – Deans MMUSTAA Election Board, MMUST
5. Member – TVET Board, MMUST
6. Member – TVET Curriculum Review Board, MMUST
7. Member – SOLACE Board, MMUST
8. Member – Science Park Board, MMUST
9. Member – Board of Governors: Wanga Technical and Vocational College.
10. Member – Board of Management: The Kakamega School, Kakamega.
11. Member – Roads 2000 National Coordination Committee (NCC) and National Steering Committee (NSC) MORPW.

PREVIOUS ASSIGNMENTS:

1. Acting Chairman of Department - Civil & Structural Engineering Dept.
2. Coordinator Industrial Attachment - Civil & Structural Engineering Dept.
3. Coordinator Final Year Projects - Civil & Structural Engineering Dept.
4. Class Advisor – BSc in Civil & Structural Engineering classes
5. Member – Tender Evaluation committees in MMUST
6. Member – Senate committee on Botanical Gardens
7. Member – University Disability Mainstreaming committee
8. Trustee/Chair – MMUST Staff Retirement Benefits Scheme
9. Warden – Non Residents Male students
10. Presiding officer – Electoral Commission of Kenya

WORKSHOPS AND CONFERENCES:

1. Grant Search and Proposal Writing and Industry Collaboration Training, Avvy Global Fund. CHAK Conference Centre, 28th – 30th October 2020.
2. TVET CDACC Training on Competence Based Assessment. Kisumu Polytechnic, Kisumu, 13th to 15th March 2019.
3. Hands on the Future Kenya Skills Show. Kenyatta International Conference Centre, Nairobi, Kenya, 8th – 10th February 2019.
4. Commonwealth Association of Technical Universities and Polytechnics in Africa (CAPA) Leadership Training and Knowledge Exchange Programme, Mombasa, Kenya, 7th – 10th February 2018.

5. Hands on the Future National TVET Conference. Kenyatta International Conference Centre, Nairobi, Kenya, 26th – 27th January 2017.
6. Commonwealth Association of Technical Universities and Polytechnics in Africa (CAPA) International Conference, Mombasa, Kenya, 5th – 11th June 2016.
7. Staff Exchange Programme at Helsinki Metropolia University of Applied Sciences, Helsinki, Finland, 19th – 28th April 2014.
8. National Dialogue on Capacity Building for the Oil and Gas Sector, AICAD – JKUAT, 5th September 2013.
9. 2013 HP Catalyst Education Summit, Sao Paulo Brazil, 16th - 18th April 2013.
10. Institution of Engineers of Kenya Conference, May 9th – 11th 2012, Nairobi, Kenya
11. Institution of Engineers of Kenya Conference, May 11th -13th 2011, Nairobi, Kenya
12. Workshop on Diverse uses of Concrete IV, Theme: Asphalt Pavements and Quality Concrete. Moi University, Eldoret, Kenya, 30th August – 2nd September 2010
13. 1st Engineering, Science and Technology Conference, 9th – 11th June 2010.
14. Workshop on Environmental Fires at Masinde Muliro University of Science and Technology, Kakamega, Kenya, June 2009
15. Institution of Engineers of Kenya Conference, April 2008, Nairobi, Kenya
16. The Third JKUAT Scientific, Technological and Industrialization Conference, (25th – 26th October 2007) JKUAT, Juja, Kenya.
17. Third Annual International Conference, (31st July - 4th August 2007) Moi University Eldoret, Kenya.
18. 1st International Conference on Disaster Management and Human Security in Africa, October 2006, MMUST Kakamega, Kenya.
19. Association of Third World Studies (ATWS) Conference (22nd - 24th November 2005) MMUST, Kakamega, Kenya.
20. Institution of Engineers Kenya Conference, April 2005, Nairobi Kenya.
21. International Civil Engineering Conference on sustainable Development in 21st century (CE 2003), August, 2003, Nairobi, Kenya.

PROFESSIONAL DEVELOPMENT:

1. TVET CDACC Training of Trainers Course
2. MMUST Grant Proposals Training
3. African Development Bank Training and Equipment project
4. North-South-South (NOSOSO) Higher Education Institution Network Programme
5. Trainer at Bamburi Builders Academy
6. MMUST HP Catalyst Initiative Project
7. Supervision of the Construction of Multi-Purpose Hall - MMUST
8. Supervision of the Construction of Science Laboratories Complex – MMUST
9. Supervision of the Construction of Men Hostel Hall 3 - MMUST
10. Supervision of the Construction of Library Phase I – MMUST
11. Supervision of the Construction of Tuition Block (LBB) - MMUST
12. Consultancy Work – Environmental Impact Assessment study for Standkhisa – Khumusalaba Road
13. Kenya Rural Bridges Project – MOR&PW
14. Sondu - Miriu Hydro-power Project – KENGEN
15. Improvement of Nairobi City Traffic Flow – NCC
16. Nithi Bridge Reconstruction – MOR&PW
17. Construction of Malindi/Garsen Road – MOR&PW
18. Jinja Bridge Reconstruction, MOWHC - Uganda
19. Kampala Trunk Roads Improvement Project, KCC – Uganda
20. Improvement of Dar es Salaam City Roads, MOW - Tanzania
21. Improvement of Chanika/Kitonga Road, MOW - Tanzania

PROFESSIONAL MEMBERSHIP:

1. Engineers Registration Board (ERB)
2. Institution of Engineers of Kenya (IEK)
3. Kenya Engineering Technology Registration Board (KETRB)
4. Institution of Engineering Technologists (IET)
5. Kenya Geotechnical Society (KGS)
6. Association of Third World Studies (ATWS)
7. Association of Disaster Management and Conflict Resolution of Kenya (ADMCRK)

COMPUTER LITERACY:

Windows XP, MS Word, MS Excel, MS office 2000, PageMaker, MS PowerPoint, Delta Graph, CorelDraw, Canvas, AutoCAD, ArchCAD, ArchView.

LANGUAGE PROFICIENCY

Language	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Swahili	Excellent	Excellent	Excellent
Kikuyu	Excellent	Excellent	Excellent

REFEREES

1. Professor George M. Thumbi
Technical University of Kenya (TUK)
Email: georgethumbi@yahoo.com
Mobile: 0724 814 436
2. Professor Richard O. Onchiri
Technical University of Mombasa (TUM)
Email: roocharo@gmail.com
Mobile: 0724 372 704
3. Professor Charles Mutai
Deputy Vice Chancellor, Planning Research and Extension
Masinde Muliro University of Science and Technology
Email: cmutai@mmust.ac.ke
Mobile: 0724 476 744