

CURRICULUM VITAE

DR. KIPLAGAT CHELELGO (Ph.D.)

Ph.D. (Civil Eng.), M.Sc. (Civil Eng.), B.Tech. (Civil Eng.) Grad. Eng. (EBK & IEK)

PERSONAL PROFILE

An industrious, dynamic and sociable civil engineer & academic specialized in transportation engineering, with specific experience in pavement design, highway materials, structural engineering materials, transportation planning, traffic engineering, highway geometric design, contract administration and construction management.

PERSONAL DETAILS

Postal address:	P.O. Box 23091 - 00100, Nairobi – Kenya.
E-mail address:	kkchelelgo@yahoo.com
Cell Phone No.:	+254 (0) 716 217 856
Languages:	English & Swahili (Excellent); French (Elementary)

ACADEMIC BACKGROUND

- 2016-2019: Ph.D. Civil Engineering (Transportation Engineering Option), Pan African University /Jomo Kenyatta University of Agriculture & Technology.**
- Ph.D. Thesis, 2019: *Modeling of Fatigue-strength Development in a Cold-Emulsion Asphalt Concrete Incorporating a Blend of Reclaimed Asphalt and Virgin Aggregates*
- 2008-2009: M.Sc. Civil Engineering (Pavement Engineering Option), University of Nottingham.**
- M.Sc. Thesis, 2009: *Effects of Diurnal Temperature Dynamics on Curing of Cold-Emulsion Reclaimed Asphalt Pavements*
 - Grade: *Merit*
- 2001-2006: B. Tech. Civil & Structural Engineering, Moi University.**
- B.Tech. Project, 2006: *Design of a Wastewater Treatment Plant for Eldama Ravine Township*
 - Grade: *2nd Class Honours, Upper Division*
- 1996-1999: Kenya Certificate of Secondary Education, Moi High School Kabarak.**
- Grade: *B+ (82/96 Points)*
- 1987-1995: Kenya Certificate of Primary Education, Lombala Primary School.**
- Grade: *A- (552/700 Marks)*

RECOGNITIONS AND SCHOLARSHIP AWARDS

- 2019: Recognized for the Best PhD Thesis in Civil Engineering, Pan African University Institute for Basic Sciences, Technology and Innovation.
- 2015: Awarded the *Pan African University Scholarship* by the African Union (AU), to pursue PhD (Civil Engineering – Transportation Engineering Option) at the Pan African University Institute for Basic Sciences, Technology and Innovation.
- 2009: Recognized as a *High Flier* for excellent academic performance, University of Nottingham.
- 2008: Awarded the *Developing Solutions for Africa Scholarship*, to pursue M.Sc. (Civil Engineering – Pavement Engineering Option) at the University of Nottingham.
- 1999: Appeared six-times in the *Principal's Award List of Academic Excellence*, Moi High School Kabarak (MHS-K).

MEMBERSHIP TO PROFESSIONAL BODIES

- 2014: - Graduate Member, Institution of Engineers of Kenya (IEK) - M/No. G.5334
- 2008: - Graduate Member, Engineers Board of Kenya (EBK) - M/No. B.4904

MEMBERSHIP TO CLUBS AND SOCIETIES

- 2008-2009: Committee member, M.Sc. Student Staff Feedback Committee, The University of Nottingham.
- 2005-2006: Assistant Secretary General, Moi University Environmental Association, Moi University.
- 2005-2006: Public Relations Officer, Koibatek University Students Association, Moi University Chapter.
- 2001-2006: Member, North Rift Evangelistic Team, Moi University Chapter.
- 1998: Founder member, Moi High School Kabarak Mathematics Club.
- 1996-1999 Active member, Moi High School Kabarak Science Club.

SEMINARS, WORKSHOPS AND SHORT COURSES

- 13th February, 2020: Stakeholders' Workshop, (*Curriculum Review – B.Sc. Civil Engineering & B. Tech Building and Construction*), Dedan Kimathi University of Technology, Nairobi Campus.
- 20th September, 2019: Stakeholders' Workshop, (*Curriculum Development – M.Sc. Civil Engineering*), Dedan Kimathi University of Technology, Nairobi Campus.

- 20th September, 2018: Mendeley Training on *Use of Mendeley Reference Manager*, Pan African University Institute for Basic Sciences, Technology and Innovation.
- 29th & 30th May, 2017: Superpave Seminar “*Adopting and Implementing of Superpave for Sustainable Road Infrastructure*”, Multimedia University of Kenya/Controls Group Ltd.
- March 2016. Stakeholders’ Workshop, (*Curriculum Development - B.Sc. Civil Engineering*), Multimedia University of Kenya.
- 9th - 11th February 2016: *Site Management Training*, Kenya Federation of Master Builders/Handwerkskammer Frankfurt-Rhein-Main.
- 24th August 2013: Seminar on *Professional Interview Preparation*, Institution of Engineers of Kenya (IEK).
- 12th -14th January 2011: Seminar on *Hydrometry and Flood Management*, Moi University/KU Leuven, Medical Education Centre, Eldoret,
- 30th July, 2005: Seminar on *Environment for Sustainable Development* held at Faculty of Information Sciences Amphitheatre, Moi University.

NATIONAL RESPONSIBILITIES AND COMMUNITY SERVICE

- 2019 to date: Member, Board of Management, Emining Boys High School.
- 2019 to date: Member, Board of Management, Emining Special School for the Deaf and Blind.
- 2015 to date: Member, Board of Management, Sagasagik Secondary School.
- 2013 to 2016: Chairman, Lombala Empowerment Program (Community Based Organization)
- June 2015: Chairman, Interim Committee for the *Proposed Eldama Ravine University*, A Constituent College of Jomo Kenyatta University of Agriculture & Technology.
- 2012: University Representative and Chairman, *Roads & Roads Furniture Committee* (Kenya Bureau of Standards),

PUBLICATIONS

- **Books**
 1. Chelelgo, K. 2012. *Cold-Emulsion Reclaimed Asphalts: An Alternative to Conventional Hot Mixed Asphalts*. Lambert Academic Publishing, Germany.

- **Peer Reviewed Journal Publications**

1. Chehelgo, K. (2010), *"Effects of Diurnal Temperature Dynamics on Curing of Cold-Emulsion Reclaimed Asphalt Pavements"*. J. Eng. Appl. Sci 5 (11), 97-104.
2. Chelimo, F.J and Chehelgo, K (2016), *"Pre-Colonial Political Organization of the Kalenjin of Kenya: An Overview"*. International Journal of Innovative Research & Development, Vol. 5, Issue 13.
3. Chehelgo, K., Gariy, Z.C.A and Shitote, S.M (2018), *Laboratory Mix Design of Cold Bitumen Emulsion Mixtures Incorporating Reclaimed Asphalt and Virgin Aggregates*. Buildings, Vol. 8, Issue 12 (177). doi:10.3390/buildings8120177
4. Chehelgo, K., Gariy, Z.C.A and Shitote, S.M (2019), *Modeling of Fatigue-strength Development in Cold-Emulsion Asphalt Mixtures Using Maturity Method*. Appl. Sci., Vol. 9, Issue 13 (2694). doi: 10.3390/app9132694

- **Conference Proceedings (with presentations)**

1. Chehelgo. K, Kaluli, J.W., Gariy, Z.C.A. and Mutuku, R.N.N (2016), *Review of Laboratory Asphalt Fatigue Prediction Models*. Proceedings of the 2016 JKUAT Scientific Technological and Industrialization Conference, Jomo Kenyatta University of Agriculture & Technology, Nairobi, 10th to 11th November 2016.

ROLE AS A JOURNAL REVIEWER

- *Canadian Journal of Civil Engineering*. Publons reviewer profile
- *MDPI Journal of Infrastructure*. Publons reviewer profile

M.Sc. STUDENTS SUPERVISED

1. **Frank Thiambii Mburu** - Comparison of Engineering Properties of Emulsion Treated and Cement Treated Gravels Used in Road Base Construction (*ongoing*). Jomo Kenyatta University of Agriculture & Technology.
2. **Titus Munyao Kioko** - Utilization of Reclaimed Asphalt in Hot-Mix Asphalt Mixtures (*ongoing*). Jomo Kenyatta University of Agriculture & Technology.
3. **Lawson Gichana Oriago** - Assessment of Engineering Properties of Gravels Used for Low-volume Sealed Roads in Murang'a County (*ongoing*). Jomo Kenyatta University of Agriculture & Technology.

KEY RESEARCH INTERESTS

1. Fatigue behaviour of asphaltic materials
2. Maturity concepts in concrete and cold-mix asphalts
3. Cold-emulsion reclaimed asphalt mixtures

PROFESSIONAL EXPERIENCE

Jun' 2012 to date: Dedan Kimathi University of Technology, Private Bag-10143, Dedan Kimathi, Nyeri, Kenya.

Position: Lecturer Grade 12

Roles & achievements

- Served as the academic leader, Pavement & Traffic Engineering
- Developed M.Sc. curriculum for Transportation Engineering.
- Reviewed Transportation Engineering units in B.Sc. Civil Engineering curriculum.
- Served as the final research projects coordinator between the years 2012 and 2019.
- Taught Transportation Engineering units at undergraduate level.
- Participated in research and publication

Mar' 2014 to May 2014: Dedan Kimathi University of Technology, Private Bag-10143, Dedan Kimathi, Nyeri, Kenya.

Position: Ag. Chairman, Department of Civil Engineering

Roles & achievements

- Chaired departmental examination board meetings
- Sat in the school examination board meetings
- Processed final year results and prepared the graduation list

Sept' 2011 to May' 2012: Masinde Muliro University of Science & Technology, P.O. Box 190, Kakamega, Kenya.

Position: Part-time Assistant Lecturer

Roles & achievements

- Taught Pavement Design, Highway Materials, Traffic Engineering and Highway Geometric Design

Aug' 2010 to Jun' 2012: Moi University, P.O. Box 3900-30100, Eldoret, Kenya.

Position: Tutorial Fellow

Roles & achievements

- Reviewed Transportation Engineering units in B.Eng. Civil & Structural Engineering curriculum.
- Served as the final research projects coordinator between the years 2010 and 2012.
- Taught Transportation Engineering units at undergraduate level.
- Participated in research and publication

Aug' 2010 to date: Rotunda Contractors Ltd., P.O. Box 23091-00100, Nairobi.

Position: Director (Projects & Technical Services)

Roles & achievements

- Preparation of bids, preparation of project progress reports, contractual correspondence and quality control in construction projects. Projects handled range from construction of roads, water supply and storage systems, industrial buildings, commercial buildings, educational institutions, bridges, and power supply infrastructure.

Projects handled

- **Ministry of Livestock Development (Leather Development Council)**
 - Construction of a tannery, a 50m³ underground masonry water tank and a reinforced concrete frame to support a 20,000lts elevated plastic water tank. Mogotio Township (Year 2012)
- **Ministry of Education**
 - Construction of Mogotio District Education Office Block (Year 2013)
 - Construction and completion of a laboratory at Soy Secondary School, Kerio Valley (Year 2012)
 - Construction of a class room and completion of a laboratory at Kapweria Secondary School, Trans-Mara (Year 2012)
 - Construction of 3 water tank plinths at Kapweria Secondary School, Trans-Mara (Year 2013)
 - Construction of 3 water tank plinths at Soy Secondary School, Kerio Valley (Year 2013)
- **Ministry of Local Government - County Council of Koibatek**
 - Construction and completion of 2 class rooms at Kapkararam Primary School (Year 2012)
 - Construction and completion of 2 outpatient units at Saos Dispensary (Year 2013)
 - Construction and completion of 1 class room, 1 gate and a gate-house at Olkokwe Secondary School (Year 2013)
- **Ministry of Roads- Kenya Rural Roads Authority (KeRRA)**
 - Gravelling, culvert & other drainage works on a 4km stretch of Kaisongor-Kapkochur Road, Elgeyo Marakwet (Year 2013).
 - Gravelling, culvert & other drainage works on a 4km stretch of Sisiya-Kapsoy Road, Elgeyo-Marakwet (Year 2013).
- **Ministry of Water and Irrigation (MW&I)**
 - Construction of Rotubei water intake structures at Kabarbarma, Marigat (Year 2013).

- **Excloosive (K) Limited**
 - Construction of a wastewater treatment & recycling tank at Rabai Power Plant, Kilifi (Year 2013).
- **Community Development Trust Fund**
 - Design, fabrication & erection of a 24m³, 12m high elevated steel water tank at St. Michael's Secondary School, Soy (Year 2014).
 - Design, fabrication & erection of a 24m³, 15m high elevated steel water tank at Awasi Kakola Sub-location (Year 2014).
- **Rift valley Water Services Board**
 - Construction of six (6) water pans, water troughs, perimeter fences and community water intake points at Keiyo South (Sawe & Kapendich), Keiyo North, (Chepkatui & Chebaiywo), and Pokot South, (Kapetakinei & Tumoi) (Year 2014)
- **County Government of Baringo**
 - Renovation of the governor's office, construction of a masonry perimeter fence, construction of reinforced concrete frames and slabs, construction of a generator house, construction of a gate house and steel gates and renovation of a restaurant (Year 2013)
 - Fabrication, construction and erection of a 36m-span steel foot bridge at Bulioge-Mogotio (Year 2014)
 - Completion of a sentry house, a power house, an ablution block, a perimeter fence and electrical works at Mogotio tannery (Year 2014)
 - Construction of 4 outpatient units and 4 toilets at Mogotio township (Year 2013)
 - Improvement of Kasirwo-Poi-Rebeko Road (Saimo-Kipsaraman Road) (Year 2014)
 - Gallery extension for the Baringo County Assembly (**ongoing**).
- **Kenya Power & Lighting Co. Ltd.**
 - Civil works for underground cabling (rock drilling, micro-tunneling, excavation, ducting, cable laying and re-instatement works). Years 2014-2017.
- **Adpower Ltd.**
 - Construction of Kagumo Sub-station (construction of cabro paved access roads, construction of reinforced concrete foundations and columns, construction of masonry perimeter walls, construction of a septic tank and a soak-pit, construction of a control room, construction of a guard house and a steel gate, construction of concrete lined cable trenches), Year 2016.
- **Turkana County Government**
 - Lokori water supply project. Erection of a 100m³, 20m high steel tank, construction of 2 water kiosks, supply and installation of two 10m³ plastic water tanks, supply and laying 8.5km water pipeline, equipping of a borehole and installation of solar power supply (**ongoing**).

May 2007 – Aug' 2010: S.S Mehta & Sons Ltd. P.O. Box 41853-00100, Nairobi.

Position: Contracts Engineer

Roles & achievements

- Preparation of bids for road projects and handling of contractual correspondence and claims.
- Preparation of program of works and work schedules for new and continuing road projects.
- Preparation of cash-flow projections for new and continuing projects.
- Preparation of payment certificates and variation of price claims.
- Facilitation of material testing at the Ministry of Roads and other laboratories.
- Preparation of project progress reports.

Projects handled

1. Repair & Rehabilitation of Thika-Gacharage road (C70)
2. Repair & Rehabilitation of Kirigiti-Rioki-Ngewa road (C64)
3. Repair & Rehabilitation of Kawangware-Kikuyu roads (D412/C63)
4. Upgrading to bitumen standards of Ndumberi-Kiawaroga road (D409/E1518)

Experience gained

1. Proficiency in use of network-based planning techniques and planning of linear/repetitive projects by use of line-of-balance method
2. Experience in application of *FIDIC Conditions of Contract* in management of construction projects
3. Careful and methodical approach to project planning and implementation
4. Adaptability and flexibility in dealing with a wide range of people

Sept' 2006- May 2007: Ministry of Roads & Public Works, P.O. Box 1796, Kiambu.

Position: Assistant Roads Engineer

- Proved efficient during the internship period and was retained by the Resident Engineer to harmonize project reports, assist in design of minor road re-alignments and to prepare material test reports for Ruiru-Kiambu roads project (D400/C63/C64).
- Prepared pavement charts, documenting materials tests and their results for the entire project extent.
- Was in charge of surveying, inspectorate and materials sections on-site

Jun-Sept 2006: Ministry of Roads & Public Works, P.O. Box 1796, Kiambu

Position: Trainee Engineer

Assigned roles

- Performing field density tests for base and sub-base materials. Made extensive use of the *Sand Replacement Method*.
- Computation of bitumen spray rates and stone chippings spread rates for use in surface dressing.
- Taking of road levels and establishing temporary benchmarks(TBMs) along the route alignment.
- Supervision of casting of pipe and box culverts, placement of asphalt concrete and processing of base and sub-base material.
- Participated in design of asphalt concrete mixtures.

Oct-Dec 2004: Orbit Enterprises Ltd. P.O. Box 49604, Kirinyaga Road, Nairobi.

Position: Trainee Engineer

Assigned roles

- Supervised concrete and steel placement in construction of the 7 storey Eden-Square building in Nairobi's Westlands area.
- Was involved in setting-out and levelling in the construction
- Performed *Slump Tests* on fresh concrete batches and *Crushing Tests* on cured concrete specimens.
- Participated in performance of on-site soil tests (bearing capacity and atterberg limits)

LEISURE INTERESTS

Giving motivational talks in organised fora, participating in entrepreneurship fora, reading novels and watching movies.

REFEREES

1. Prof. Eng. Stanley Muse Shitote (Ph.D.),

Deputy Vice Chancellor (Administration, Finance & Planning),

Rongo University,

P.O. Box 103-40404,

Rongo, Kenya.

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2. Dr. Eng. Timothy Nyomboi (Ph.D.),

Manager (Design & Construction),

Kenya Urban Roads Authority,

P.O. Box 41727-00100,

Nairobi, Kenya.

Tel: +254 (0) 722 756 864

E-mail: tnyomboi@gmail.com

3. Dr. Joseph Ng'ang'a Thuo (Ph.D.),

Chairman, Department of Civil Engineering,

Dedan Kimathi University of Technology,

Private Bag-10143, Dedan Kimathi,

Nyeri, Kenya.

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12th August, 2020