



THE TECHNICAL UNIVERSITY OF KENYA

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CURRENT DESIGNATION: SENIOR LECTURER -AG. DIRECTOR OF THE SCHOOL

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CONSULTATION HOURS: 9AM-5PM MON - FRI



EDUCATION

QUALIFICATION	AREA OF SPECIALIZATION	INSTITUTION	YEAR
Doctor of Philosophy (PhD)	ENVIRONMENTAL ENGINEERING	...UNIVERSITY OF WISCONSIN-MILWAUKEE. (UNITED STATES)	2010.
Masters of Science (M.Sc.)	ENVIRONMENTAL ENGINEERING	...UNIVERSITY OF WISCONSIN-MILWAUKEE. (UNITED STATES)	2006
Bachelor of Science (BSc)	CIVIL ENGINEERING	...UNIVERSITY OF WISCONSIN-MILWAUKEE. (UNITED STATES)	2003
Bachelor of Science (BSc)	ENVIRONMENTAL SCIENCE-PHYSICAL SYSTEMS	UNIVERSITY OF WISCONSIN-GREEN BAY (UNITED STATES)	2003
Higher Diploma	CONSTRUCTION ENGINEERING (SOIL MECHANICS & FOUNDATION ENGINEERING OPTION)	THE KENYA POLYTECHNIC (KENYA)	1991
Diploma	CIVIL ENGINEERING	THE MOMBASA POLYTECHNIC (KENYA)	1986

WORK EXPERIENCE

PERIOD	POSITION	INSTITUTION
January 2014 - To date	AG. DIRECTOR OF SCHOOL - SIRE	THE TECHNICAL UNIVERSITY OF KENYA (KENYA)
January 2014 - To date	CHAIRMAN, CIVIL & CONSTRUCTION ENGINEERING DEPARTMENT	THE TECHNICAL UNIVERSITY OF KENYA (KENYA)
August 2010 - June 2011	LECTURER OF ENGINEERING	UNIVERSITY OF WISCONSIN-ROCK COUNTY (UNITED STATES)
January 2009 - June 2010	RESEARCH ASSISTANT	UNIVERSITY OF WISCONSIN-MILWAUKEE (UNITED STATES)
September 2012 - January 2014	CHAIRMAN, CIVIL & ENVIRONMENTAL ENGINEERING DEPARTMENT	THE TECHNICAL UNIVERSITY OF KENYA (KENYA)

January 2005 - January 2009	TEACHING ASSISTANT	UNIVERSITY OF WISCONSIN-MILWAUKEE (UNITED STATES)
October 2010 - February 2012	RESEARCH/PROJECT ENGINEER	BLOOM COMPANIES, LLC (UNITED STATES)
August 2011 - December 2011	ADJUNCT PROFESSOR	CONCORDIA UNIVERSITY-WISCONSIN (UNITED STATES)
January 1987 - December 1999	SENIOR LABORATORY TECHNOLOGIST	MATERIALS TESTING & RESEARCH DEPARTMENT, MINISTRY OF PUBLIC WORKS (KENYA)
April 2007 - August 2010	STUDENT ENGINEER	WE ENERGIES (UNITED STATES)
January 2004 - April 2007	ENGINEERING TECHNICIAN	GILES ENGINEERING ASSOCIATES (UNITED STATES)

GENERAL STATEMENT ON RESEARCH AREA(S)

My research areas include but not limited to coal combustion flue gas adsorbents, Biogeotechnics (microbial soil strength improvement), Metals and radionuclides contaminants removal in surface water impoundments and drinking water from aquifers and private wells using microbial carbonate precipitation (lattice and non-lattice coprecipitation) and nanoparticles (nano-size cenospheres) composites, Heat transfer using Conductive Concrete, and By-products utilization.

CURRENT RESEARCH PROJECTS

TITLE	AREA
The use of pyroclastics as coal combustion flue gas adsorbents	Environmental Engineering (By products utilization)
Improvement of bearing capacity of red coffee soil using waste thermosetting plastics	Geo-Environmental Engineering (By products utilization)
The use of rice husk ash for stabilization of red coffee soils for use in pavement construction	Geo-Environmental Engineering (By products Utilization)
Investigation on why clay bricks made in Elgeyo Marakwet county is preferred as a valuable construction material in Uasin-Gishu County.	Geotechnical Engineering
Developing a database of leguminous plants waste ashes with pozzolanic activities for use as partial replacement of cement in concrete manufacture	Geo-Environmental Engineering (By-products utilization)

SELECTED PUBLICATIONS

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Evaluation of Surface Water Runoff from Fly Ash-Stabilized and Nonstabilized Soil Surfaces

[Frank J. Dombrowski](#), CHMM¹; [Bruce W. Ramme](#), Ph.D., P.E., M.ASCE²; [George D. O. Okwadha](#)³; and [Dave Kollakowsky](#)⁴

[http://ascelibrary.org/doi/abs/10.1061/\(ASCE\)EE.1943-7870.0000214](http://ascelibrary.org/doi/abs/10.1061/(ASCE)EE.1943-7870.0000214)

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Optimum conditions for microbial carbonate precipitation

[George D.O. Okwadha](#), [Jin Li](#)
<http://www.sciencedirect.com/science/article/pii/S0045653510010933>

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Biocontainment of polychlorinated biphenyls (PCBs) on flat concrete surfaces by microbial carbonate precipitation

George D.O. Okwadha, Jin Li

<http://www.sciencedirect.com/science/article/pii/S0301479711001927>

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Biocontainment of PCBs on flat concrete surfaces and coprecipitation of PCBs and metals in boiler chemical cleaning wastewater by microbial carbonate precipitation

By Okwadha, George D.O., Ph.D., THE UNIVERSITY OF WISCONSIN - MILWAUKEE, 2010, 143 pages; 3416634

<http://gradworks.umi.com/34/16/3416634.html>

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Thermal Removal of Mercury in Spent Powdered Activated Carbon from TOXECON Process.

George D. O. Okwadha¹; Jin Li, Ph.D.²; Bruce Ramme, Ph.D., P.E., M.ASCE³; Dave Kollakowsky⁴; and Dave Michaud⁵

[http://ascelibrary.org/doi/abs/10.1061/\(ASCE\)EE.1943-7870.0000074](http://ascelibrary.org/doi/abs/10.1061/(ASCE)EE.1943-7870.0000074)

- Coal Combustion Utilization Handbook, 3rd Edition. Bruce W. Ramme; Mathews P. Tharaniyil. Reviewed by Dr. Okwadha

http://www.we-energies.com/environmental/recycle_coalash.htm

- Effectiveness of rice husk ash in stabilizing Kenyan Red Coffee soil for road subgrades construction. G.D.O. Okwadha and P.W. Nyingi

<http://link.springer.com/article/10.1007/s13762-016-1092-2>

- Partial replacement of river sand with volcanic pyroclastics as fine aggregates in concrete production. By Okwadha, GDO and Ngengi KJ

[http://www.iosrjournals.org/iosr-jmce/pages/13\(5\)Version-3.html](http://www.iosrjournals.org/iosr-jmce/pages/13(5)Version-3.html)

- Partial replacement of cement by plant solid waste ash in concrete production. By Okwadha GDO

[http://www.iosrjournals.org/iosr-jmce/pages/13\(5\)Version-3.html](http://www.iosrjournals.org/iosr-jmce/pages/13(5)Version-3.html)

CURRENT POSTGRADUATE STUDENTS SUPERVISION

NAME	PROJECT TITLE	PERIOD
Eng. Antony Gatune	Lake Naivasha recharge and Water Quality modeling.	PhD (2014-to date). On going.
Mr. Stanley Ng'ang'a Kibe	Groundwater mapping, Quality Assessment and Hydrogeophysical modeling in Makueni County-Eastern Kenya	PhD (2014-to date). On going.
Mr. Joseph Mwaura Karanja	Suitability of Partial Replacement of Natural Coarse Aggregates	Msc. (2014-to date). On going.

PROFESSIONAL AFFILIATIONS AND SOCIETIES

Registered Graduate Engineer, Engineers Board of Kenya