



# CURRICULUM VITAE

**Prof. (Eng.) Walter Odhiambo Oyawa**  
Professor of Civil Engineering (Structural Engineering)  
(PhD., MSc, BSc, EMBA, R. Eng., MIEK, Lead Expert-NEMA)



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# CURRICULUM VITAE

## SUMMARY

**Prof. Walter O. Oyawa**, is currently the Director General of the National Commission for Science, Technology & Innovation (NACOSTI), and also the Chairman of the East African Science and Technology Commission (EASTECO), which was established as a semi-autonomous institution of the East African Community. He is a member of several international and national Governing Boards of institutions/corporations that include; the International Science Council (ISC) of which he is also a Fellow, the International Centre for Genetic Engineering and Biotechnology (ICGEB) Board, the Joint UK-Kenya Oversight Board, Kenya National Innovation Agency (KENIA) Board, the Kenya Medical Research Institute (KEMRI) Board, and the National Research Fund (NRF) Board, among others. At academic/professional level, Prof. Oyawa is a Full Professor of Civil (Structural) Engineering, and a holder of a PhD in Civil Engineering, MSc in Civil Engineering, BSc in Civil Engineering, and Executive MBA, amongst others. He is a Registered Professional Engineer, and a Lead Expert on Environmental Management-NEMA.



In addition to his current position as Director General of NACOSTI, Prof. Oyawa has served in various senior leadership/management positions including having been the first substantive Principal/CEO of Multimedia University College-Kenya, and thereafter as the first Ag. Vice Chancellor/CEO of Multimedia University (MMU) following its upgrading from a Constituent University college of JKUAT to a fully-fledged University. He has also served as the Deputy Commission Secretary/CEO (Administration & Finance) at the Commission for University Education (CUE), the first Ag. Principal of the pioneering College of Engineering & Technology (COETEC) at JKUAT, the first Director of SMARTEC-JKUAT (a Research & Technology Centre for Sustainable Construction Materials), the Chairman of Management Board of SMARTEC-JKUAT, the Chairman of Civil, Construction & Environmental Engineering Dept.-JKUAT, and a member of the Project Implementation Team (PIT) for the upcoming Kenya Advanced Institute of Science and Technology (KAIST), among others. Prof. Oyawa is a holder of several other Certificates that include; Strategic Leadership Development Program, Corporate Governance for Directors, Project Management, Financial Management.

He has vast experience in research/scholarly work, as evidenced by extensive publications and presentations in peer reviewed journals, conferences, reports, and lead presentations. He has been a convenor of conferences, a keynote speaker, and a reviewer for several international journals, as well as being an engineering consultant on several projects. He has supervised a large number of PhD and Master's degree students. His core area of research embraces Sustainable Construction Materials and Technologies.



## **I. PERSONAL DETAILS**

Name: **Prof. Walter Odhiambo Oyawa**

Date of birth: 23-8-1965

Marital status: Married, with five children

Nationality: Kenyan

Current address:

National Commission for Science, Technology and Innovation (NACOSTI),

P. O. Box 30623 - 00100, Nairobi, KENYA

Tel: +254-728-215578

E-mail: [oyawaw@yahoo.com](mailto:oyawaw@yahoo.com)

## **II. ACADEMIC QUALIFICATIONS**

**2000: Ph.D. Civil Engineering** (Structural Engineering), at **Kyoto University, Japan.**

**1995: M.Sc. Civil Engineering** (Structural Engineering), at the **University of Nairobi, Kenya.**

**1989: B.Sc. Civil Engineering**, Upper second class honours at the **University of Nairobi, Kenya.**

**2012: Executive Master of Business Administration (EMBA)**, at **JKUAT, Nairobi, Kenya**

**2017: Certificate in Corporate Governance course for Directors**, by the **Centre for Corporate Governance**, Nairobi, Kenya

1984: Kenya Advanced Certificate of Education (**A-Level**), 16 points, at Starehe Boys' Centre and School, Nairobi, Kenya.

1982: Kenya Certificate of Education (**O-Level**), Division one, at Starehe Boys' Centre and School, Nairobi, Kenya.

1978: Certificate of Primary Education (**CPE**), 35 pts at Embakasi Primary School, Nairobi, Kenya.

### **◆ Continuing Professional Development Certificates**

2019: Training of Trainers Course on: Eurocode Design of Concrete Structures, Certificate of Completion, organized by Modulus Structural Engineering (UK) and KEBS, 23<sup>rd</sup> – 27<sup>th</sup> September, 2019, Machakos, Kenya.

2019: Training of Trainers Course on: Eurocode Design of Steel Structures, Certificate of Completion, organized by the Steel Construction Institute (SCI-UK) and KEBS, 1<sup>st</sup> – 5<sup>th</sup> July, 2019, Machakos, Kenya.

2019: Technical Introduction to Structural Eurocodes, Certificate of Participation, organized by the Steel Construction Institute (SCI-UK), Modulus Structural Engineering-UK, and KEBS, 26<sup>th</sup> – 28<sup>th</sup> June, 2019, Nairobi.

2019: Trustee Development Program Kenya (TDPK), Certificate of Proficiency, organized by the College of Insurance, 22<sup>nd</sup> March, 2019, Nairobi.

2018: Strategic Leadership Development Program (SLDP No. 165/2018), Certificate, organized by the Kenya School of Government (KSG), 22<sup>nd</sup> October to 30<sup>th</sup> November, 2018 (6 weeks), Nairobi.



- 2018: Board and Audit Committee Workshop, Certificate of Participation, organized by the Institute of Internal Auditors of Kenya, 5<sup>th</sup> to 12<sup>th</sup> Nov., 2018 in Diani.
- 2017: MWONGOZO Induction Programme for Boards of State Corporations, Certificate of Participation, State Corporations Advisory Committee, Executive Office of the President.
- 2016: External Quality Assurance-putting theory into practice - Certificate of Training by European Consortium for Accreditation in Higher Education (ECA) and Agency for Quality Assurance through Accreditation of Study Programmes (AQAS).
- 2016: Performance Management Using the Balanced Score Card - Certificate of Training
- 2016: ISO/IEC 270001:2013 Information Security Management System-Certificate of Training
- 2008: Project Management Certificate of attendance by Institution of Engineers of Kenya (IEK)
- 2008: Financial Management (Budgeting and Procurement) Certificate of attendance by Kenya Institute of Management (KIM)
- 2008: Leadership and Management Capacity Development Training, by KIM
- 2006: Certificate of Environmental Impact Assessment and Environmental Audit course, JKUAT, Kenya
- 2007: Certificate of Quality Management Systems (ISO 9001:2000 Certification Training, by Kenya Bureau of Standards (KEBS), Nairobi, Kenya
- 2007: Certificate of Quality Management Systems for Internal Quality Auditing course, by KEBS

### **III. REGISTRATION AND MEMBERSHIP OF PROFESSIONAL BODIES**

1. **Registered Professional Engineer**, Engineers Registration Board of Kenya (ERB), Nairobi, Kenya. (Membership No. A 2055 of 8/01/2003)
2. **Corporate member**, Institution of Engineers of Kenya (IEK), Nairobi, Kenya. (Membership No. M-2482 of 12/11/2002)
3. **Lead Expert**, National Environmental Management Authority (NEMA), Nairobi, Kenya. (15/11/2006)
4. **Member**, International Association of Bridge and Structural Engineering (IABSE) (2000)
5. **Member**, Japan Society of Civil Engineers (JSCE), Japan (2000)

### **IV. EMPLOYMENT/WORK EXPERIENCE IN SUMMARY**

#### **◆ Academic, Administrative and Engineering**

- 2020- To date: **Director General/CEO of the National Commission for Science, Technology & Innovation (NACOSTI)**, Kenya. Appointed by the Cabinet Secretary, Ministry of Education.
- 2010-To date: **Full Professor of Civil Engineering (Structural Engineering)** in the Department of Civil Engineering, Jomo Kenyatta University of Agriculture and Technology (JKUAT), Kenya. **Lecturing and supervising** students in the field of Structural Engineering (Structural Engineering Design, Theory of Structures and Civil Engineering Materials). Also engaged in **Research and Development, curriculum**



**development and engineering consultancy work as a Registered Engineer and Lead Expert of National Environmental Management Authority-NEMA** (design, construction, environmental technology and material testing) being undertaken by the University.

- 2021- To date: **Chairman, Governing Board of the East African Science and Technology Commission (EASTECO)-EAC**, Rwanda, which was established as a semi-autonomous institution of the East African Community.
- 2015- 2020: **Deputy Commission Secretary/CEO (Administration & Finance), Commission for University Education (CUE), Kenya**; reporting to the CEO/ Commission Secretary, Nairobi, Kenya. The head of Administration and Finance Division of the commission.
- 2021- To date: **Member of the Governing Board of the International Science Council (ISC)**, which is a non-governmental organization with a unique global membership that brings together over 200 international scientific unions and associations as well as national and regional scientific organizations including academies and research councils, based in Paris, France.
- 2022- To date: **Fellow of the International Science Council (ISC)**, which is a non-governmental organization with a unique global membership that brings together over 200 international scientific unions and associations as well as national and regional scientific organizations including academies and research councils, based in Paris, France.
- 2020- To date: **Member of the Governing Board of the International Centre for Genetic Engineering and Biotechnology (ICGEB)**, which is an autonomous Intergovernmental Organization based in Trieste, Italy.
- 2020- To date: **Member of the Governing Board of the Joint UK-Kenya Oversight Board in Research, Science and Innovation**, which was established to provide strategic guidance on UK-Kenya partnerships on science and innovation.
- 2020- To date: **Member of the Governing Board, East African Science and Technology Commission (EASTECO)-EAC**, Rwanda, which was established as a semi-autonomous institution of the East African Community.
- 2021: **Board Member**, Kenya National Innovation Agency (KENIA) Board, Kenya.
- 2021-2022: **Board Member**, Kenya Forestry Research Institute (KEFRI) Board, Kenya.
- 2020-2022: **Board Member**, Kenya Agricultural and Livestock Research Organization (KALRO) Board, Kenya.
- 2020-2021: **Board Member**, National Cancer Institute (NCI) Board, Kenya.
- 2020-2021: **Board Member**, National Research Fund (NRF) Board, Kenya.
- 2020- todate: **Panelist** in the Civil Panel, Board's Registration and Professional Development Committee, Engineers Board of Kenya (EBK)
- 2019-2021: **Board Member**, Kenya Industrial Property Institute (KIPI) Board, Kenya.
- 2016-2019: **Board Member**, National Employment Authority (NEA) Board, Kenya.
- 2019-todate: **Member**, National Implementation Committee on Eurocode (NICE), under the auspices of Kenya Bureau of Standards (KEBS).
- 2021 - todate: **Member**, Project Implementation Team (PIT) for the Establishment of Kenya Advanced Institute of Science and Technology (KAIST).
- 2019 - 2021: **Member**, Contract Implementation Committee (CIC) for the Establishment of Kenya Advanced Institute of Science and Technology (KAIST).



- 2018, Sept.: **Member**, Technical Evaluation Committee of RFP for the Establishment of Kenya Advanced Institute of Science and Technology (KAIST).
- 2017 March–Sept.: **Acting Commission Secretary/ CEO, Commission for University Education.**
- 2013-2014: **Ag. Vice Chancellor and CEO**, Multimedia University of Kenya, appointed by the Minister for Higher Education as the **first Ag. Vice Chancellor** of Multimedia University charged with responsibilities of setting up and implementing the structures, vision and mission of the University. The Academic and administrative head of the University.
- 2011-2014: **Principal and CEO**, Multimedia University College (a constituent college of JKUAT), appointed by the Minister for Higher Education through gazette notice. The **first substantive Principal** of the University College charged with responsibilities of setting up and implementing the structures, vision and mission of the University College. The Academic and administrative head of the University College.
- June 2015-Nov. 2015: **Project Director, JKUAT Konza City Project**, reporting to the Vice Chancellor, JKUAT.
- 2009-2010: **Director**, Sustainable Materials Research and Technology Centre (SMARTEC), JKUAT; which is a multi-disciplinary centre for sustainable construction.
- 2006-2010: **Chairman**, Department of Civil, Construction and Environmental Engineering, JKUAT. Responsibilities: Chief Administrator of the Department, Chief Examinations' Officer, curriculum review and development including new programs, allocating duties to staff members of the department. Member of the university senate.
- 2014-2015: **Chairman, SMARTEC Management Board; reporting to the Deputy Vice Chancellor (RPE) and Vice Chancellor, JKUAT.** The Board is the governing organ of SMARTEC (Sustainable Materials Research and Technology Centre).
- 2015(3mths): **Research Chair of Civil Engineering, Pan African University Institute for Basic Sciences, Technology and Innovation (PAUSTI)**, which is funded by the African Union.
- 2014-2015: **Admissions Jurist/Student Selection Jury for Pan African University Institute for Basic Sciences, Technology and Innovation (PAUSTI)**, which is funded by the African Union.
- 2014-todate: **Coordinator of the Innovation and Prototyping Integrated Centre(iPIC)**, Africa-ai-Japan Project at JKUAT, supported by JICA, Japan. I am also a **Task force member of the Africa-ai-Japan Project** at JKUAT.
- 2013-2015: **Part-time Professor of the Pan African University, Institute for Basic Sciences, Technology and Innovation (PAUSTI)**, Nairobi, Kenya. Lecturing and supervising students in the PhD Civil Engineering program and MSc Civil Engineering program of PAUSTI.
- 18<sup>th</sup> Oct.-Nov. 2011: **Chairman of** (African Union funded) **Pan African University Institute of Science, Technology and Innovation (PAUSTI)** Implementation Committee, *whose main function is to facilitate the realization of the University and PAUSTI Vision and Mission. Before this appointment, I was the Chairman of JKUAT Technical Team that wrote the winning proposal leading to JKUAT being selected to host PAUSTI.*
- 2010-2011: **Ag. Principal**, College of Engineering and Technology (COETEC), JKUAT. The **first Ag. Principal** of the first college within JKUAT, charged with responsibilities of



setting up and implementing the structures, vision and mission of the college. The Academic and administrative head of the College, comprising of three schools (with eight academic Departments), and a Research, Innovation and Consultancy Triangle that includes Engineering workshops, Consultancy/Professional Development Centre and Industrial/Community Liaison Office.

30<sup>th</sup> Sept. – 13<sup>th</sup> October 2011: **Ag. Deputy Vice Chancellor (AA)**, JKUAT, when the Deputy Vice Chancellor (AA) was away from office.

4<sup>th</sup> – 21<sup>st</sup> April 2011: **Ag. Deputy Vice Chancellor (AA)**, JKUAT, when the Deputy Vice Chancellor (AA) was away from office.

23<sup>rd</sup> – 26<sup>th</sup> February 2011: **Ag. Deputy Vice Chancellor (AA)**, JKUAT, when the Deputy Vice Chancellor (AA) was away from office.

17<sup>th</sup> October 2011-Nov. 2011: **Chairman of University Tender Committee, JKUAT.**

Dec. 2010 – 2012: **Gazetted member of the National Environment Council (NEC)** appointed by the Minister for Environment and Mineral Resources, Kenya (The Kenya Gazette notice of 24/12/2010).

2011 : **Member of the Mombasa Polytechnic University College Council**, representing JKUAT senate.

2010: **Convenor**, JKUAT committee for proposal writing for the selection of host university for Pan African University Institute for Science, Technology and Innovation (PAUISTI)

2004-2010: **Associate Professor** in the Department of Civil Engineering, Jomo Kenyatta University of Agriculture and Technology (JKUAT). **Lecturing and supervising** students in the field of Structural Engineering (Structural Engineering Design, Theory of Structures and Civil Engineering Materials). Also engaged in **Research and Development, curriculum development and engineering consultancy work as a Registered Engineer and Lead Expert of National Environmental Management Authority-NEMA** (design, construction, environmental technology and material testing) being undertaken by the University.

2010: **Chairman**, JKUAT adhoc- committee on double-intake strategy.

March-April 2007: **Ag. Dean**, Faculty of Engineering, JKUAT.

2007-2009: **Coordinator**, Sustainable Materials Research and Technology Centre (SMARTEC), JKUAT

2008-2010: **Member** of the National Committee on International Year of Planet Earth.

2007-2008: **Member** of National Technical Implementation Committee for Solio Ranch and Ramisi Settlement Schemes.

2007-2008: **Member** of National Coordinating Committee of Roads 2000 Strategy

2005-2012: **Member** of aggregates technical committee charged with the task of supervising the national standardization process of aggregates, under the aegis of Kenya Bureau of Standards.

2005-2011: **Member** of Natural stone technical committee, under the aegis of Kenya Bureau of Standards.

2003-2011: **Editor-in-Chief**, Journal of Civil Engineering Research and Practice; an International Journal. Responsible for day-to-day running of the journal, including



- correspondence with authors and reviewers, chairing editorial board meetings, editing and publishing reviewed papers, mobilizing financial resources for the journal, etc.
- 2008: **Chairman**, Organizing committee for *the International Civil Engineering Conference held in Mombasa, Kenya in September 2008*.
- 2008: **Convenor**, for *the International Symposium on Engineering and sustainable development held in Mombasa, Kenya in September 2008*.
- 2009-2011: **Chairman**, National Standards Technical Committee on Cement and building lime, under the auspices of Kenya Bureau of Standards
- 2009-2011: **Chairman**, National Standards Technical Committee on Natural Stone and Masonry, under the auspices of Kenya Bureau of Standards
- 2005: **Project Manager**, Hall 7 phase II construction project.
- 2002-2004: **Principal Investigator** in African Institute for Capacity Development (AICAD) pilot research program on low-cost housing.
- 2002-2004: **Senior Lecturer** in the Department of Civil Engineering, Jomo Kenyatta University of Agriculture and Technology (JKUAT). **Lecturing and supervising** students in the field of Structural Engineering (Structural Engineering Design, Theory of Structures and Civil Engineering Materials). Also engaged in **research, curriculum development and engineering consultancy work as a Registered Engineer**.
- 2004: **Convenor**, Subcommittee on establishment of new courses/Departments in the Department of Civil Engineering, JKUAT.
- 2004: **Convenor**, Research Committee in the Department of Civil Engineering, JKUAT.
- 2000-2003: **Editor-in-Chief**, Journal of Civil Engineering, JKUAT; a regional Journal.
- 2002: **Member** of the National Building and Civil Engineering Industry Standards Committee.
- 2000-2002: **Lecturer** in the Department of Civil Engineering, Jomo Kenyatta University of Agriculture and Technology (JKUAT). Lecturing and supervising in the field of Structural Engineering (Theory of Structures, Design, Technical drawing and Civil Engineering Materials). Conducting **research**. Engaged in **curriculum development and engineering consultancy work** (design, construction and material testing) being undertaken by the University.
- 2000-2001: **Convenor**, MSc (Structural Engineering) Syllabus Committee of the Department of Civil Engineering, JKUAT. Coordinated the development of the syllabus which was approved by the Departmental and Faculty Boards, as well as the Senate.
- 2000-2002: **Convenor**, Seminars/Conferences Committee of the Department of Civil Engineering, JKUAT.
- 2001-2002: **Convenor**, Publications Committee of the Department of Civil Engineering, JKUAT
- 2000-2002: **Convenor**, Faculty of Engineering KIRDI/JKUAT liaison Committee.
- 2001-2002: **Class Advisor**, BSc (Civil Engineering) second year class.
- 2001-2002 & 2005-2006: **Class Advisor**, MSc (Civil Engineering-Structures) first year class.
- 2001-2002: **Hall Warden**, Hall four (4), JKUAT. Responsible for welfare matters of students





in the hall.

1995-2000: **Assistant Lecturer** in the Department of Civil Engineering, Jomo Kenyatta University of Agriculture and Technology (JKUAT). Lecturing in the field of Structural Engineering (Theory of Structures and Concrete Technology). Conducting **research, and engaged in curriculum development and consultancy work.**

#### ◆ **Program External Examiner, and External Assessor**

2019 – to date: **External Examiner**, School of Graduate Studies, University of Botswana, Botswana.

2016 - 2017: **External Examiner**, Department of Building and Civil Engineering, Technical University of Mombasa, Kenya.

2015 - 2022: **External Examiner**, Department of Civil and Construction Engineering, University of Nairobi, Kenya.

2009 - 2014: **External Examiner**, Department of Civil and Structural Engineering, Moi University, Kenya.

2010 - 2013: **External Examiner**, Department of Structural and Construction Engineering, University of Dar es Salaam, Tanzania.

2010 - 2012: **External Examiner**, Department of Civil and Construction Engineering, University of Nairobi, Kenya.

2008 - 2013: **External Examiner**, Department of Civil and Structural Engineering, Masinde Muliro University of Science and Technology (MMUST), Kenya.

2014: **External Assessor and panelist** to evaluate a candidate (Prof. FAO Otieno-VC MMUST) for the position of Professor at Masinde Muliro University of Science and Technology.

2010: **External Assessor** to evaluate a candidate (Prof. A. Mannan) for the position of Professor at Universiti Malaysia Sabah, Malaysia.

2011: **External Assessor** to evaluate a candidate (Dr. A. Mrema) for the position of Associate Professor at University of Dar es Salaam, Tanzania.

2011: **External Assessor** to evaluate a candidate (Dr. L. Rubaratuka) for the position of Associate Professor at University of Dar es Salaam, Tanzania.

2011: **External Assessor** to evaluate a candidate (Dr. L. Lwambuka) for the position of Associate Professor at University of Dar es Salaam, Tanzania.

2014-2016: Pan African University **selection/admissions jurist.**

#### ◆ **Reviewer of international journals**

- 1) **Reviewer**, for “*Structures Journal*”, published by Elsevier Science Ltd., UK.
- 2) **Reviewer**, for “*International Journal of Construction and Building Materials*”, published by Elsevier Science Ltd., UK.
- 3) **Reviewer**, for “*Construction Materials Journal*”, published by the Institution of Civil Engineers (ICE), UK.
- 4) **Reviewer** for “*International Journal of Structural Engineering and Mechanics*”, Technopress, Korea.
- 5) **Reviewer** for “*Steel and Composite Structures*”, Technopress, Korea.



- 6) **Reviewer** for “East African Journal of Physical Sciences”, an international Journal of Pure and Applied Science.
- 7) **Reviewer** for “Journal of Agriculture, Science and Technology”, Published by JKUAT.
- 8) **Reviewer** for “East African Journal of Engineering, Science and Technology”, Published by MMUST.
- 9) **Reviewer** for “Discovery and Innovation”, Journal of the African Academy of Sciences.

#### ◆ **Editor of Journal, and Conference/Symposium Proceedings**

- 2003-2014: **Editor-in-Chief**, Journal of Civil Engineering Research and Practice; an International Journal. Responsible for day-to-day running of the journal, including correspondence with authors and reviewers, chairing editorial board meetings, editing and publishing reviewed papers, mobilizing financial resources for the journal, etc.
- 2008: **Editor**, Proceedings of 2<sup>nd</sup> International Civil Engineering Conference on Civil Engineering and Sustainable Development, Organized by Kyoto University, Japan and JKUAT, Kenya, 23-25<sup>th</sup> September, Mombasa, Kenya.
- 2010: **Editor**, Proceedings of International Symposium on Modernizing local sustainable technologies as the engine for sustainable development, 25-26<sup>th</sup> February, Nairobi, Kenya.
- 2008: **Editor**, Proceedings of 1<sup>st</sup> International Civil Engineering Symposium on Re-orienting Civil Engineering Education and Training, Organized by JKUAT, Kenya and Kyoto University, Japan, 25-26<sup>th</sup> September, Mombasa, Kenya.
- 2003: **Editor**, Proceedings of International Workshop on Recent Trends in Civil Engineering Practice, 14-15 August, Nairobi, Kenya.

#### ◆ **Chairman, Panelist, and Convenor of Conferences/Symposiums**

##### **Convenor**

- 2010: **Convenor**, International Symposium on Modernizing local sustainable technologies as the engine for sustainable development, 25-26<sup>th</sup> February, Nairobi, Kenya.
- 2008: **Chairman of Organizing Committee**, 2<sup>nd</sup> International Civil Engineering Conference on Civil Engineering and Sustainable Development, Organized by Kyoto University, Japan and JKUAT, Kenya, 23-25<sup>th</sup> Sept., Mombasa, Kenya.
- 2008: **Convenor**, 1<sup>st</sup> International Civil Engineering Symposium on Re-orienting Civil Engineering Education and Training, Organized by JKUAT, Kenya and Kyoto University, Japan, 25-26<sup>th</sup> September, Mombasa, Kenya.
- 2009: **Convenor**, Seminar on Fostering Research Leaders of our time, Organized by Eastern Africa JSPS alumni association, 25 March at AICAD building, Nairobi, Kenya.
- 2007: **Convenor**, Civil Engineering Symposium, 8<sup>th</sup> January Nairobi, Kenya



2003: **Co-Convenor**, International Workshop on Recent Trends in Civil Engineering Practice, 14-15 August, Nairobi, Kenya.

### **Panelist**

Panelist, International Conference on Enhancing Education in Kenya, 23rd to 26th August 2022, Mombasa

Panelist, East Africa Workshop On Stakeholder Engagement How to build a platform for Research and Innovation Partnership on Food and Nutrition Security and Sustainable Agriculture, 25-02-2022

Panelist, High-Level Forum on Access and Benefit Sharing Arising from Sustainable Utilization of Indigenous Knowledge and Genetic Resources, Jan 2022

Panelist, Annual Conference of the National Construction Authority (NCA), Jan 2021

Panelist Nairobi County on Extremists

Panelist ATPS on Mitigation of Extremisms

Panelist UN-SDGs

Panelist and Keynote Speaker, UoN Nuclear Institute Conference

Panelist, Higher Education Conference, University of Nairobi, Feb. 2021

### **◆ Keynote Speaker**

2022: **Public Lecture**, 1<sup>st</sup> KEFRI Public Lecture, 15<sup>th</sup> September 2022, Nairobi, Kenya  
Visibility

2022: **Keynote Speaker**, 1<sup>st</sup> International Conference on Research, Innovations and Skills Exhibition (iCORISE), 2<sup>nd</sup> - 4<sup>th</sup> June 2022, Mombasa, Kenya.

2021: **Keynote Speaker**, 15<sup>th</sup> JKUAT Scientific, Technological and Industrialization Conference, 25<sup>th</sup> – 26<sup>th</sup> March, Nairobi, Kenya.

2021: **Keynote Speaker**, 3<sup>rd</sup> Tharaka University College Annual International Research Conference, 18<sup>th</sup> and 19<sup>th</sup> November, Tharaka, Kenya.

2021. **Keynote Speaker**, 1<sup>st</sup> Multi-Sectoral Conference on STI Governance and Mainstreaming, NACOSTI, 4<sup>th</sup> – 6<sup>th</sup> August, Naivasha, Kenya.

2016: **Keynote Speaker**, Moi University 11<sup>th</sup> International Conference, 13<sup>th</sup> – 17<sup>th</sup> September, Eldoret, Kenya.

2012: **Keynote Speaker**, Moi University 8<sup>th</sup> Annual International Conference, 4<sup>th</sup>-8<sup>th</sup> September, Eldoret, Kenya.

2006: **Keynote Speaker**, World Association of Industrial and Technological Research Organizations (WAITRO) Congress 2006, Saskatoon, Canada.



### ◆ Professional Consultancies, Community Service and Initiatives

- 2014-2015: **Project Structural/Civil Engineer** for “Renovations and Extension to the Engineering Workshops Building at JKUAT” project.
- 2011: **Project Engineer** for “Construction of pavement connecting JKUAT hospital to New Science Complex” project.
- 2009-2010: **Project Lead Engineer** for “Construction of Juja Catholic Church Parish” project.
- 2007-2008: **Project Manager for “Road repair-works within JKUAT”.**
- 2005: **Project Manager and Structural Engineer** for “Conversion of hall 7-phase II” project; used innovative eco-materials for walling and wall-plaster.
- 2005: **Project Structural Engineer** for “Conversion of hall 7-phase I” project.
- 2005: **Project Materials’ Expert** for “Science complex laboratories” project.
- 2005: **Consultant and Innovator** for the “construction of Vice Chancellor’s office at the Nyeri showground stand”
- 2001-2002: **Structural Designer and supervisor** for “New Sports and Recreation facilities at JKUAT” project. Engaged in design and site supervision.
- 2002: **Conducted load testing** on the canopy of maissonettes at Mid-land court, South C, Nairobi for M/s Artuk(K) limited.
- 2001: **Quality control and training manager, as well as being a member of design and construction team** for “New Classrooms at JKUAT MMS-IT Centre” project. Engaged in design, site supervision, quality control of materials, and training of BSc and Diploma students on attachment.
- 2001-2002: **Coordinator of quality control tests** on concrete for the construction of new AICAD offices at JKUAT, by Sumitomo Construction Co.
- 2001-2002: **Coordinator of quality control tests** on steel and concrete for the construction of Meru water works, by Taisei Construction Co.
- 1995: **In charge of quality control tests** on materials (cement and steel) for the construction of Sabaki Bridge, by Nipponkoe Co.



## **V. POSTGRADUATE RESEARCH SUPERVISION AND EXAMINATION**

### **◆ PhD Thesis Supervision**

- 2018-2021: **Supervisor of PhD-Civil Engineering student**, Pan African University Institute for Basic Sciences, Technology and Innovation, **PAUSTI** (Ms. Manette Njike: Structural Performance of Straw Block Assemblies under Compression Load-2021).
- 2017-2019: **Supervisor of PhD-Civil Engineering student**, Pan African University Institute for Basic Sciences, Technology and Innovation, **PAUSTI** (Mr. A. Mengesha: Structural Performance of Composite Concrete-Filled uPVC Tubular Columns-2019).
- 2016-2019: **Supervisor of PhD-Civil Engineering student**, SMARTEC, JKUAT (Mr. Sanewu I. Fundi, 2019).
- 2015-2018: **Supervisor of PhD-Civil Engineering student**, Pan African University Institute for Basic Sciences, Technology and Innovation, **PAUSTI** (Ms. Victoria Okumu: Development of Mix Design Procedure for Blended Cement Concrete Production in Kenya -2018)
- 2015-2018: **Supervisor of PhD-Civil Engineering student**, Pan African University Institute for Basic Sciences, Technology and Innovation, **PAUSTI** (Mr. Belachew Asteray: Structural Performance of Finely Dispersed Wastes on Recycled Reactive Powder Concrete and Strength Prediction Using Neural Network Approach for Sustainable Construction - 2018)
- 2013-2015: **Supervisor of PhD-Construction Engineering & Management student**, JKUAT (Mr. Abednego O. Gwaya, 2015).
- 2009-2013: **Supervisor of PhD-Civil Engineering student**, JKUAT (Mr. G.N. Manguriu: The Torsional Response of Mangrove Reinforced Concrete Beams-2013).

### **◆ MSc Thesis Supervision**

- 2020-2021: **Supervisor of MSc-Civil Engineering student**, Pan African University Institute for Basic Sciences, Technology and Innovation, **PAUSTI** (Mr. David Shinkonde; Structural Performance of Rubberised Concrete Incorporated with Burnt Clay Brick Powder as Partial Cement Replacement - 2021).
- 2017-2018: **Supervisor of MSc-Civil Engineering student**, Pan African University Institute for Basic Sciences, Technology and Innovation, **PAUSTI** (Mr. N. Jean Claude; Experimental Investigation on effect of recycled tyre steel fibres on physical and mechanical properties of rubberized concrete, 2018).



- 2017-2018: **Supervisor of MSc-Civil Engineering student**, Pan African University Institute for Basic Sciences, Technology and Innovation, **PAUSTI** (Mr. Awetehagn T. Gebremariam; Development of Self-Compacting Translucent Concrete Incorporating Recycled Glass Aggregate for Sustainable Construction, 2018).
- 2013-2014: **Supervisor of MSc-Civil Engineering student**, Pan African University Institute for Basic Sciences, Technology and Innovation, **PAUSTI** (Mr. A. Mengesha; The Effect of Plant Extract on the Structural Performance of Concrete, 2014).
- 2013-2014: **Supervisor of MSc-Civil Engineering student**, Pan African University Institute for Basic Sciences, Technology and Innovation, **PAUSTI** (Mr. T. Okello; Use of Local Brewery Waste and Bitter Cassava Flour as a Partial Replacement of Cement for Plastering Mud Houses).
- 2013-2014: **Supervisor of MSc-Civil Engineering student**, Pan African University Institute for Basic Sciences, Technology and Innovation, **PAUSTI** (Mr. K. Kerte; Structural Performance of Mangrove Reinforced Concrete Beam and Column elements, 2014).
- 2013-2014: **Supervisor of MSc-Civil Engineering student**, Pan African University Institute for Basic Sciences, Technology and Innovation, **PAUSTI** (Mr. N. Manette; Potential of Stabilized Composite Mud Block as eco Construction Material, 2014).
- 2013-2015: **Supervisor of MSc-Civil Engineering student**, **JKUAT** (Mr. John G. Chege).
- 2013-2015: **Supervisor of MSc-Civil Engineering student**, **JKUAT** (Mr. Philip O. Mogire).
- 2013-2015: **Supervisor of MSc-Civil Engineering student**, **JKUAT** (Mr. Naftaly K. Gathimba).
- 2013-2015: **Supervisor of MSc-Civil Engineering student**, **JKUAT** (Mr. Paul C. Kioko).
- 2008-2010: **Supervisor of MSc-Civil Engineering student**, **JKUAT** (Mr. T. Musiomi; Laterized Quarry Dust and Recycled Concrete as Alternative Building Materials, 2010).
- 2018-todate: **Supervisor of MSc-Civil Engineering student**, **JKUAT** (Mr. T. Oluchiri); ongoing.

#### ◆ **PhD and MSc Thesis Examiner (Internal and External)**

##### ○ **External Examiner**

###### PhD

- 2015: **External Examiner for PhD Thesis** titled “Structural Response of expansive black cotton soils treated with lime activated sugar cane Bagasse Ash for engineering applications”, by Ms. Bernadette Waswa-Sabuni, Masinde Muliro University of Science and Technology. Kenya.
- 2008: **External Examiner for PhD Thesis** titled “Studies on high-performance steel fiber reinforced concrete under static and impact loads”, by Mr. P. Ramadoss, Dept. of Civil Eng., Anna University, India.
- 2008: **External Examiner for PhD Thesis** titled “Effect of selected aggressive ions on pozzolana-based cement mortar”, by Mr. Jackson W. Muthengia, Kenyatta University, Kenya.



## **MSc**

- 2020: **External Examiner for MSc Thesis** titled “Investigation on the Structural Performance of Steel-Timber Composite Beams”, by Mr. Jovitus Kato, University of Dar es Salaam, Tanzania.
- 2018: **External Examiner for MSc Thesis** titled “Bending stress response of strap beams”, by Mr. Benjamin Asin Mugada, MMUST, Kenya.
- 2017: **External Examiner for MSc Thesis** titled “The Suitability and sustainability of waffle slabs in Engineering Design”, by Mr. Juzer Muslim Hassuji, University of Dar es Salaam, Tanzania.
- 2017: **External Examiner for MSc Thesis** titled “Investigation of suitable concrete for coastal marine structures by the partial replacement of cement with fly ash”, by Mr. Augustine Fahnlon Taylor, University of Dar es Salaam, Tanzania.
- 2015: **External Examiner for MSc Thesis** titled “Modeling natural frequencies of vibration of three-dimensional frames under two dimensional loading”, by Mr. Gideon Nzioki Mutala, University of Nairobi, Kenya.
- 2015: **External Examiner for MSc Thesis** titled “Characterization of the microstructure of cement paste using autogenous shrinkage and heat of hydration parameters”, by Ms. Teresa Ng’endo Mbogo, University of Nairobi, Kenya.
- 2015: **External Examiner for MSc Thesis** titled “Computational approach to investigation of crack behavior under vehicular loading of a typical concrete pavement”, by Mr. Njiru Joseph Mwaura, University of Nairobi, Kenya.
- 2011: **External Examiner for MSc Thesis** titled “Contribution of local construction materials to buildings collapse risk”, by Mr. Mwasame Geoffrey, Masinde Muliro University of Science and Technology (MMUST), Kenya.
- 2010: **External Examiner for MSc Thesis** titled “Application of a 4D design strategy in housing using locally available materials in Kenya”, by Ms. Okumu V. Akoth, Dept. of Civil and Structural Eng., Moi University, Kenya.
- 2009: **External Examiner for MSc Thesis** titled “Improving the retention of first year students”, by Mr. Graham Bishop, University of Western Sydney, Australia.

### ○ **Internal Examiner**

- 2019 **Internal Examiner for PhD Thesis** titled “Experimental and Analytical Modelling of OPC Concrete Mixed with Bamboo Leaf Ash and Bagasse Ash” by Oluwaseye Onikeku, PAUSTI, Kenya.
- 2021 **Internal Examiner for MSc Thesis** titled “Creep Performance of Concrete Beams



- Containing Rice Husk Ash” by Winfred Nthuka Mutungi, PAUSTI, Kenya.
- 2020 **Internal Examiner for MSc Thesis** titled “: Experimental Investigation and Non-Linear Finite Element Analysis of Continuous Spiral-Type Wire Rope Shear Reinforced Concrete Beams” by Gerals Michael Colyvas, PAUSTI, Kenya.
- 2019 **Internal Examiner for MSc Thesis** titled “Physical and Mechanical Characterization of Pineapple Leaf Fibre Reinforced Concrete” by Patrick Kayibanda, PAUSTI, Kenya.
- 2019 **Internal Examiner for MSc Thesis** titled “Effects of Fire on the Flexural Strength of Reinforced Concrete Beams” by Leonard M. Kiute, JKUAT, Kenya.
- 2018 **Internal Examiner for MSc Thesis** titled “Effect of Treated Borassus Aethiopum Mart Fiber on the Physical and Mechanical Properties of Hollow Block-Mortar” by Jeorcla Frenech Nkouka Nsayi, PAUSTI, Kenya.
- 2018 **Internal Examiner for MSc Thesis** titled “Structural Performance of Concrete with Waste Glass Enhanced with Wood Ash” by Peter Ontieri Manyara, Dept. of Civil Eng., JKUAT, Kenya.
- 2018 **Internal Examiner for MSc Thesis** titled “Structural Performance of Sisal Fibers Reinforced Lightweight Concrete with Waste Plastic Pre-Coated Volcanic Scoria Aggregates” by TEJIONA TANGOMO Frank Rolan, Pan African University Institute for Basic Sciences, Technology and **Innovation**, PAUSTI, Kenya.
- 2018 **Internal Examiner for MSc Thesis** titled “Investigation of the Potential of Dune Sand for use in Structural Concrete” by Danembaye Ddoum-Madje Emmanuel, Pan African University Institute for Basic Sciences, Technology and **Innovation**, PAUSTI, Kenya.
- 2017: **Internal Examiner for MSc Thesis** titled “Laterized quarry dust and crushed bricks as alternative concrete making materials”, by Mr. Paul Sankale Loonturot, JKUAT, Kenya.
- 2017: **Internal Examiner for MSc Thesis** titled “Cracking of jointed plain concrete pavement”, by Mr. James Mwitari, JKUAT, Kenya.
- 2015 **Internal Examiner for MSc Thesis** titled “An Investigation into the causes of delay in large civil engineering projects in Kenya” by Symon A. Kwatsima, SMARTEC, JKUAT, Kenya.
- 2015 **Internal Examiner for MSc Thesis** titled “Use of Stone Dust in the Design of High Performance Concrete” by Cheruiyot Joffrey, SMARTEC, JKUAT, Kenya.
- 2015: **Internal Examiner for MSc Thesis** titled “Performance of glue laminated bamboo beams”, by Kariuki James, Pan African University Institute for Basic Sciences, Technology and **Innovation**, PAUSTI, Kenya.
- 2015: **Internal Examiner for MSc Thesis** titled “Investigation of Landolphia Buchananii as a concrete reinforcement material”, by Michael Ketter, Pan African University Institute for Basic Sciences, Technology and **Innovation**, PAUSTI, Kenya.
- 2015: **Internal Examiner for MSc Thesis** titled “Preparation of Nairobi County wind map as part of





- Kenya National Annex to EN-1991-1-4”, by Edwin Onkendu Ongayo, Pan African University Institute for Basic Sciences, Technology and **Innovation, PAUSTI**, Kenya.
- 2012 **Internal Examiner for MSc Thesis** titled “A Study of collapsing building structures in Kenya ” by Samuel N. Charagu, JKUAT, Kenya.
- 2012 **Internal Examiner for MSc Thesis** titled “Animal Dung and Municipal Solid Waste Ash as alternative stabilizer for clay blocks ” by Isaac Fundi Sanewu, JKUAT, Kenya.
- 2009 **Internal Examiner for MSc Thesis** titled “Laterized quarry dust and recycled concrete as alternative building materials ” by Timothy M. Musembe, Dept. of Civil Eng., JKUAT, Kenya.
- 2007 **Internal Examiner for MSc Thesis** titled “Influence of Modifiers and Heat Treatment on the Fatigue Life and Mechanical Properties of Recycled Cast Aluminium Alloys” by Njuguna Michael Kamau, JKUAT, Kenya.
- 2004 **Internal Examiner for MSc Thesis** titled “Use of Local labour crushed aggregates as a low cost aggregate for low cost housing” by Mukeku, M.C., JKUAT, Kenya.

## **VI. RESEARCH AND PUBLICATIONS**

### **◆ *Journal (Refereed) papers***

1. **David Sinkhonde, Richard Ocharo Onchiri, Walter Odhiambo Oyawa, and John Nyiro Mwero**, (2022), “A study on mechanical properties of rubberized concrete containing burnt clay powder”, Heliyon-Science Direct, Published by Elsevier, <https://doi.org/10.1016/j.heliyon.2021.e08565>
2. **David Sinkhonde, Richard Ocharo Onchiri, Walter Odhiambo Oyawa, and John Nyiro Mwero**, (2022), “Durability and water absorption behaviour of rubberised concrete incorporating burnt clay brick powder”, Cleaner Materials, Elsevier, <https://doi.org/10.1016/j.clema.2022.100084>
3. **David Sinkhonde, Richard Ocharo Onchiri, Walter Odhiambo Oyawa, and John Nyiro Mwero**, (2021), “Response surface methodology-based optimization of cost and compressive strength of rubberized concrete incorporating burnt clay brick powder”, Heliyon-Science Direct, <https://doi.org/10.1016/j.heliyon.2021.e08565>
4. **David Sinkhonde, Richard Ocharo Onchiri, Walter Odhiambo Oyawa, and John Nyiro Mwero**, (2021), “Ductility performance of reinforced rubberized concrete beams incorporating burnt clay powder”, Heliyon-Science Direct, Published by Elsevier, <https://doi.org/10.1016/j.heliyon.2021.e08310>
5. **Manette Njike, Walter O. Oyawa, and Silvester O. Abuodha**, (2021), “Potential of Straw Block as an Eco - Construction Material”, Book Chapter, Sustainable Civil Infrastructures:



- Design and Construction of Smart Cities, Springer, pp. 253 - 261.  
<https://doi.org/10.1016/j.istruc.2019.11.009>
6. **Abraham Mengesha Woldemariam, Walter O. Oyawa, and Timothy Nyomboi**, (2020), “Reliability assessment of axially loaded uPVC tube confined reinforced concrete columns”, Structures, Elsevier, Volume 23, pp. 529 – 538. <https://www.springer.com/series/15140>
  7. **Manette Njike, Walter O. Oyawa, and Silvester O. Abuodha**, (2021), “Structural Performance of Straw Block Assemblies under Compression Load”, The Open Construction & Building Technology Journal, pp. 350 - 357.  
<https://openconstructionandbuildingtechnologyjournal.com>,
  8. **Sinkhonde, David and Onchiri, Richard Ocharo, Oyawa, Walter Odhiambo and Mwero, John Nyiro**, (2021), “Ductility Performance of Reinforced Rubberised-Burnt Clay Powder Concrete Beams”, Available at SSRN: <https://ssrn.com/abstract=3911167> or <http://dx.doi.org/10.2139/ssrn.3911167>
  9. **Awetehagn Tuum, Stanley Shitote, Walter Oyawa, and Medhanye Biedebrhan** (2019), “Structural Performance of Translucent Concrete Façade Panels”, *Advances in Civil Engineering, Volume 2019, Article ID 4604132*. <https://doi.org/10.1155/2019/4604132>
  10. **Abraham M. Woldemariam, Walter O. Oyawa, and Timothu Nyomboi**, (2019), “Structural Performance of uPVC Confined Concrete Equivalent Cylinders Under Axial Compression Loads”, **Buildings**, MDPI, 9, 82.  
[Buildings 2019, 9, 82; doi:10.3390/buildings9040082](https://doi.org/10.3390/buildings9040082)
  11. **Abraham M. Woldemariam, Walter O. Oyawa, and Timothy Nyomboi**, (2019), “Behavior of Concrete-Filled Single and Double-Skin uPVC Tubular Columns Under Axial Compression Loads”, **The Open Construction and Building Technology Journal**, Volume 13, pp. 164 - 177. <https://openconstructionandbuildingtechnologyjournal.com>
  12. **Timothy Ong’ino Oluchiri, Oyawa Walter O, and Mathew Winja** (2019), “Performance of Compressed Lightweight Concrete Manufactured using a Blend of Sawdust, Fish Scales and Sand Aggregates”, International Journal of Advanced Research and Publications, ISSN: 2456-9992, Vol 3(10), pp. 64 – 70.
  13. **Belachew Asteray Demiss, Walter Odhiambo Oyawa and Stanley Muse Shitote**, (2018) “Mechanical and microstructural properties of recycled reactive powder concrete containing waste glass powder and fly ash at standard curing” **CIVIL & ENVIRONMENTAL ENGINEERING, cogent engineering, April**.  
<https://doi.org/10.1080/23311916.2018.1464877>
  14. **Tuum, A., Shitote, S., Oyawa, W.**, (2018), “Experimental Study of Self-Compacting Mortar Incorporating Recycled Glass Aggregate”, **Buildings**, 8,15, MDPI  
[8, 15;doi:10.3390/buildings8020015](https://doi.org/10.3390/buildings8020015)
  15. **Awetehagn Tuum, Stanley Muse Shitote and Walter Odhiambo Oyawa**, (2018), “Experimental Evaluation on Light Transmittance Performance of Translucent Concrete”,



*International Journal of Applied Engineering Research*, Vol. 5(1), Online.  
[www.ripublication.com](http://www.ripublication.com)

16. **Demiss Belachew Asteray, Walter Odhiambo Oyawa and Stanley Muse Shitote**, (2018) “Compressive and Flexural Strength of Recycled Reactive Powder Concrete Containing Finely Dispersed Local Wastes”, *Open Journal of Civil Engineering*, 8, pp. 12-26, <http://www.scirp.org/journal/ojce>
17. **Okello Thomas, Oyawa Walter, Ajwang Patrick**, (2017), “Use of Cow Dung and Local Brewery Waste as a Partial Replacement of Cement for Plastering Low Cost Houses”, *IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE)*, Vol. 14(3) Ver. II (May. - June. 2017), pp. 27-32. [www.iosrjournals.org](http://www.iosrjournals.org)
18. **Belachew Asteray, Walter Oyawa and Stanley Shitote**, (2017) “Experimental Investigation on Compressive Strength of Recycled Reactive Powder Concrete Containing Glass Powder and Rice Husk Ash” *Journal of Civil Engineering Research*, Vol. 7(4), pp 124-129, DOI: 10.5923/j.jce.20170704.03 ,
19. **Victoria A. Okumu, Stanley M. Shitote, and Walter O. Oyawa**, (2017), “Influence of Constituent Materials Properties on the Compressive Strength of *in Situ* Concrete in Kenya”, *Open Journal of Civil Engineering*, pp. 63-81. <http://www.scirp.org/journal/ojce>
20. **Okello Thomas, Oyawa Walter, Ajwang Patrick**, (2017), “**The Effect of Local Brewery Waste and Bitter Cassava Flour on Compressive Strength and Shrinkage of Plaster Mortar for Eco-House**”, *International Journal of Engineering Science Invention* Vol. 6(4)(April, 2017), pp. 60-65.
21. **Victoria A. Okumu, Stanley M. Shitote, and Walter O. Oyawa**, (2017), “Determination of Appropriate Mix Proportions for the Kenyan Blended Portland Cement Concrete Production”, *American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS)*, ISSN (print) 2313-4410, ISSN (Online) 2313-4402.
22. **Ndayambaje J. Claude, Richard Onchiri, Walter Oyawa**, (2017), “Combined Effect of Recycled Tyre Steel Fibre and Crumb Rubber on Flexural Toughness of Concrete”, *International Journal of Innovative Science and Modern Engineering*, Vol. 13(2), pp. 1209-1218, -32. [www.ijisme.org](http://www.ijisme.org)
23. **Walter O. Oyawa, Naftary K. Gathimba, and Geoffrey N. Manguriu** (2016), “Structural response of composite concrete filled plastic tubes in compression”, **Steel and Composite Structures**, Techno Press, Vol. 21, No. 3 pp. 589-604
24. **Woldemariam, A. M., Oyawa, W. O. & Abuodha, S. O.** (2015), “The Use of Plant Extract as Shrinkage Reducing Admixture (SRA) Shrinkage and Cracking on Cement Mortar”, *International Journal of Innovation and Scientific Research*, ISSN 2351-8014, Vol. 13 No. 1, pp. 136-144.



25. **Njike Manette, Walter Oyawa and Timothy Nyomboi** (2014), “Effect of Hand Compaction on Compressive Strength and Water Absorption of Compressed Stabilized Earth Blocks”, *International Journal of Structural and Civil Engineering Research*, Volume 3, Issue 3, Page 116-132.
26. **Abraham, M. W., Oyawa, W.O. & Abuodha, S. O.** (2014), “Cypress Tree Extract as an Eco-Friendly Admixture in Concrete”, *International Journal of Civil Engineering & Technology (IJCIET)*, 5(6):25-36.
27. **Kallenama Azé Kerté, Timothy Nyomboi and Walter Oyawa** (2014), “Structural Performance of Mangrove Reinforced Concrete Beams”, *International Journal of Engineering Sciences & Emerging Technologies*, Volume 7, Issue 1, pp: 496-505.
28. **K.A. Kerté, R. A. Shuaibu, T.Nyomboi and W. O. Oyawa** (2014), “Structural Performance of Short Mangrove Reinforced Concrete Columns”, *International Journal of Engineering Sciences & Emerging Technologies*, Volume 7, Issue 2, pp: 568-577.
29. **Mogire, P, Manguriu, G.N. and W. Oyawa** (2014), “Analysis of curved plate elements using open source software”, *Int. Journal of Scientific and Research Publications*, 4(7), pp. 1-7.
30. **Gathimba, N.K., Oyawa, W.O. and Manguriu, G.N.** (2014), “Compressive Strength Characteristics of Concrete-Filled Plastic Tubes Short Columns”, *Int. Journal of Science and Research*, Pp 2168-2174.
31. **Chege, J., Oyawa, W.O. And Manguriu, G.N.** (2014), “The effects of Pine (*Pinus Canariensis*) Tree bark on the properties of fresh and hardened concrete”, *Civil and Environmental Research*, 6(9), pp. 70-81.
32. **Paul Christopher Kimali Kioko, Dr. (Eng.) Geoffrey N. Mang’uriu , Prof. (Eng.) Walter Oyawa** (2014), “An Investigation into the Application of used Lube-Oil for Improvement of Engineering Foundations”, *International Journal of Engineering Research & Technology (IJERT)*, Vol. 3 Issue 8, pp 233-244.
33. **Abednego Oswald Gwaya, Sylvester Munguti Masu, Walter Odhiambo Oyawa** (2014), “The Role of Servant Leadership in Project Management in Kenya”, *International Journal of Soft Computing and Engineering (IJSCE)*, Volume-4 Issue-5, pp. 38 – 46.
34. **Abednego Oswald Gwaya, Sylvester Munguti Masu, Walter Odhiambo Oyawa** (2014), “Development of a Benchmarking Model for Construction Projects in Kenya”, *International Journal of Soft Computing and Engineering (IJSCE)*, Volume-4 Issue-5, pp. 31-37.
35. **Manguriu, G.N., Oyawa, W.O. and Abuodha, S.O.** (2013), “Physical and Mechanical Properties of Mangrove from Kilifi in Kenya”, *Global Engineers and Technologists Review [www.getview.org](http://www.getview.org)* (Online), pp. 1 – 5.
36. **Mang’uriu, G.N., Karugu, C.K., Oyawa, W.O., Abuodha, S.O. and Mulu, P.U.** (2013),



“Partial replacement of natural river sand with crushed rock sand in concrete production”, *Global Engineers and Technologists Review* [www.getview.org](http://www.getview.org) (Online), pp. 7 – 14.

37. **Mang’uriu, G.N., Mutuku, R.N., Oyawa, W.O. and Abuodha, S.O. (2012)**, “Properties of Pumice Lightweight Aggregate”, *Civil and Environmental Research* ISSN 2222-1719 (Paper) ISSN 2222-2863 [www.iiste.org](http://www.iiste.org) (Online), Vol 2, No.10, pp. 58 - 67.
38. **Maritim, N.K., Oyawa, W.O., Mutuku, R.N. and Onchiri, R.O. (2010)**, “Physical and Mechanical properties of laterized concrete: a case study of Juja laterites”, *Journal of Science, Technology, Education and Management (J-STEM)*, MMUST Press, Kenya, Vol. 3 (1&2), pp. 1-7.
39. **Oyawa, W.O. (2007)**, “Steel encased polymer concrete under axial compressive loading: Analytical formulations”, *International Journal of Construction and Building Materials*, Elsevier Science Ltd., UK. Vol. 21, pp. 57-65. Available at <http://www.sciencedirect.com>
40. **Oyawa, W.O. (2008)**, “Local Technologies and Spirituality as the Anchor for Sustainable Development”, (*Peer reviewed book chapter12*) *Progress in Sustainable Development Research*, Nova Science Publishers, New York, Editor: Roberto A. Lopez, pp 251-261, ISBN-13: 978-1-60021-847-7.
41. **Oyawa, W.O. and Sugiura, K. (2009)**, “Effects of Municipal Waste Ash and Fly-Ash on Strength and Stiffness of Eco-Cement Concrete”, *Journal of Civil Engineering Research and Practice*, Vol.6(2), pp. 25-38.
42. **Maritim, N.K., Oyawa, W.O. and Mutuku, R.N. (2007)**, “Optimizing local plant products in building construction: Effects of truss configuration, and bamboo reinforcement”, *Journal of Civil Engineering Research and Practice*, Vol.4(2), pp. 43-59.
43. **Oyawa, W.O., and Musiomi, T. (2008)**, “Effect of jointing mortar on structural behaviour of wall panels made of eco-blocks”, *Journal of Civil Engineering Research and Practice*, Vol.5(2), pp. 57-68.
44. **Mutuku, R.N., Oyawa, W.O. and Mogeni, J.N. (2006)**, “Potential of Waste Tires as Aggregates in Concrete”, *Journal of Civil Engineering Research and Practice*, Vol. 3(1), pp. 75-84.
45. **Oyawa, W.O., Sugiura, K., and Watanabe, E. (2004)**, “Polymer Concrete Filled Circular Steel Beams Subjected to Pure Bending”, *Steel and Composite Structures, an International Journal*, Techno press, Vol. 4 (4), pp. 265-280.
46. **Oyawa, W.O., Sugiura, K., and Watanabe, E. (2004)**, “Flexural Response of Polymer Concrete Filled Steel Beams”, *International Journal of Construction and Building Materials*, Elsevier Science Ltd., UK. Vol. 18 (6), pp. 367-376.
47. **Oyawa, W.O. (2004)**, “Eco-materials for sustainable development in developing countries”, *Structural Engineering International, International Journal of the International Association for Bridge and Structural Engineering (IABSE)*, Vol. 14 (3), pp. 208-212.



48. **Sugiura, K., Watanabe, E. and Oyawa, W.O. (2003)**, “Assessment of Non-Concrete Filled Steel Bridge Piers Subjected to cyclic loading”, *Journal of Structural Engineering, Japan Society of Civil Engineers*, Japan, Vol. 49A, pp. 393-402.
49. **Oyawa, W.O., Watanabe, E. and Sugiura, K. (2004)**, “Finite Element Studies on Hollow Steel Columns under Multi-Directional Cyclic Loads”, *Journal of Civil Engineering Research and Practice*, Nairobi, Vol. 1 (1), pp. 33-49.
50. **Mutuku, R.N., Oyawa, W.O. and Maritim, N. (2004)**, “Experimental Studies on Large-Scale Timber Trussed Systems under Nodal Point Loads”, *Journal of Civil Engineering Research and Practice*, Nairobi, Vol. 1 (2), pp. 77-90.
51. **Oyawa, W.O., Sugiura, K. and Watanabe, E. (2001)**, “Polymer Concrete in Filled Steel Composite Members Subjected to Axial Compression”, *International Journal of Construction and Building Materials*, Elsevier Science Ltd., UK, Vol 15(4), pp. 187-197.
52. **Sugiura, K., Watanabe, E. and Oyawa, W.O. (2001)**, “Assessment of Fill Material Properties for Filled Steel Stub Columns”, *Journal of Structural Engineering, Japan Society of Civil Engineers*, Japan, Vol. 47A, pp. 1413-1422.
53. **Oyawa, W.O., Sugiura, K. and Watanabe, E. (2001)**, “Simplified analysis of filled steel tubular stub columns under compression”, *Journal of Civil Engineering, JKUAT*, Nairobi, Vol. 6, pp. 133-144.
54. **Chang, K.C, Oyawa, W.O., and Watanabe, E. (2001)**, “Performance of highway bridges during high intensity earthquakes”, *Journal of Civil Engineering, JKUAT*, Nairobi, Vol. 6, pp. 117-131.
55. **Watanabe, E., Sugiura, K. and Oyawa, W.O. (2000)**, “Effects of Multi-directional Displacement Paths on the Cyclic Behaviour of Rectangular Hollow Steel Columns”, *Journal of Structural Mechanics and Earthquake Engineering, Japan Society of Civil Engineers*, Vol. 17(1), pp. 79-95. (*Best Technical Paper of JSCE in the year 2001*).
56. **Oyawa, W.O., Sugiura, K., Watanabe, E., Ono, K., and Wakahara, N. (2000)**, “Experimental and analytical modeling of interface interaction in composite flexural members”, *Journal of Structural Engineering, Japan Society of Civil Engineers*, Japan, Vol. 46A, pp.1561-1572.
57. **Oyawa, W.O., and Watanabe, E., (2000)**, “Experimental simulation of multi-axial loads on steel columns”, *Journal of Civil Engineering, Jomo Kenyatta University of Agric. & Tech.*, Nairobi, Vol. 5, pp.59-70.
58. **Oyawa, W.O., Sugiura, K. and Watanabe, E. (1999)**, “Flexural Deformation Characteristics of Filled Steel Composite Beams Subjected to Pure Bending”, *Journal of Structural Engineering, Japan Society of Civil Engineers*, Japan, Vol. 45A, pp. 105-116.
59. **Oyawa, W.O., Asano, E., Sitandi, D.O. and Maza, J. (1999)**, “Studies on the Structural



- Response of the Old Sabaki Bridge”, *Journal of Civil Engineering, JKUAT, Nairobi*, Vol. 4, pp.1-12.
60. **Oyawa, W.O., Sugiura, K. and Watanabe, E. (1998)**, “Elasto-Plastic Behaviour of Axially Loaded Filled Circular Steel Stub Columns”, *Journal of Structural Engineering, Japan Society of Civil Engineers, Japan*, Vol. 44A, pp. 147-148.
61. **Watanabe, E. and Oyawa, W.O. (1997)**, “Structural Behaviour of Filled Steel Composite Stub Columns under Compressive Load”, *Journal of Civil Engineering, JKUAT, Nairobi*, Vol. 3, pp.20-25.
62. **Watanabe, E. and Oyawa, W.O. (1996)**, “Lessons from the 1995 Great Hanshin Awaji Earthquake; Performance of concrete and steel bridge structures”, *Journal of Civil Engineering, JKUAT, Nairobi*, Vol. 2, pp.40-64.
63. **Oyawa, W.O., Eigawa, T. and Ngugi, P. (1996)**, “Flexural Behaviour of Reinforced Concrete Beams with Pumice as Coarse Aggregate”, *Journal of Civil Engineering, JKUAT, Nairobi*, Vol. 2, pp.127-136.
64. **Oyawa, W.O. (1995)**, “Prospects for a Kenyan Equivalent standard Sand for Cement Quality Control”, *Journal of Civil Engineering, JKUAT, Nairobi*, Vol. 1, pp. 1-7.

#### ◆ Papers in Engineering Industry Journals

65. **Oyawa, W.O. (2004)**, “Eco-materials: the present and future of cement and construction industries”, *Kenya Engineer, Journal of the Institution of Engineers of Kenya*, Vol. 25(1), pp. 27-29.
66. **Oyawa, W.O. (2001)**, “Recent trends in composite construction”, *Kenya Engineer, Journal of the Institution of Engineers of Kenya*, Vol. 22(3), pp. 30-33.
67. **Oyawa, W.O. (2000)**, “Extradosed Prestressed Concrete (EPC) Bridges: Challenge for the 21<sup>st</sup> century”, *Construction Review, Journal of the Construction Industry in East Africa*, Vol. 11(2), pp. 9-11.
68. **Oyawa, W.O. (1998)**, “Constructing the Tomisato Dam in Japan”, *Kenya Engineer, Journal of the Institution of Engineers of Kenya*, January/February, Vol. 18, No. 1, pp. 25-27.
69. **Oyawa, W.O. (1997)**, “Kurushima Linked suspension bridges project in Japan”, *Kenya Engineer, Journal of the Institution of Engineers of Kenya*, July/August, Vol. 18, No. 4, pp. 33-35.



◆ **Papers in International/national Conferences, Congress, Symposiums, Colloquiums, Workshops and Seminars**

70. **W. Oyawa** (2022), “Visibility and the Impact of Research Vis-A- Vis Research Funding”, 1st KEFRI Public Lecture, 15<sup>th</sup> September 2022, Nairobi, Kenya (**Public Lecture**)
71. **W. Oyawa**, (2022) “Role of NACOSTI in TVET Research and Innovations”, 10<sup>th</sup> Rift Valley Technical Training Institute (RVTTI) International Conference, 22<sup>nd</sup> - 24<sup>th</sup> June 2022, Kenya. (**Keynote Speaker**)
72. **W. Oyawa**, (2022) “Harnessing Science, Technology, and Innovation for the Blue Economy”, 1st International Conference on Research, Innovations and Skills Exhibition (iCORISE), 2nd - 4th June 2022, Mombasa, Kenya. (**Keynote Speaker**)
73. **W. Oyawa**, (2021) “Science, Technology, and Innovation as Frontline Force in Response to Pandemics”, 15<sup>th</sup> JKUAT Scientific, Technological and Industrialization Conference, 25<sup>th</sup> – 26<sup>th</sup> March, Nairobi, Kenya. (**Keynote Paper**)
74. **W. Oyawa**, (2021) “The Role of Universities on Utilization of Research Technologies and Innovations towards Sustainable Development”, 3<sup>rd</sup> Tharaka University College Annual International Research Conference, 18<sup>th</sup> and 19<sup>th</sup> November. (**Keynote Paper**)
75. **W. Oyawa**, (2021) “The Regulatory and Institutional framework governing the STI Sector”, Multi-Sectoral Conference on STI Governane and Mainstreaming, NACOSTI, 4<sup>th</sup> – 6<sup>th</sup> August, Naivasha. (**Keynote Paper**)
76. **W. Oyawa**, (2021) “The Role of Technology and Innovation in Regional Transformation and Integration”, 2<sup>nd</sup> EAC Science, Technology, and Innovation Conference, EASTECO-EAC, 27<sup>th</sup> – 29<sup>th</sup> October, Bujumbura, Burundi.
77. **W. Oyawa**, (2021) “Strengthening Research Process and Ethics During Pandemics”, 1<sup>st</sup> International Conference on Research Process and Research Ethics, Daystar University, 28<sup>th</sup> - 30<sup>th</sup> September, Nairobi, Kenya.
78. **W. Oyawa**, (2021) “The Institutional Framework Driving the STI Sector: Focus on Funding of Research”, 1<sup>st</sup> Blended Research Dissemination Conference”, Masinde Muliro University of Science and Technology (MMUST), 30<sup>th</sup> – 31<sup>st</sup> August, Kakamega, Kenya. (**Guest Speaker**)
79. **W. Oyawa**, (2021) “Science, Technology, and Innovation Regulatory Framework and National Research Priorities”, The 4<sup>th</sup> KIPPRRA Annual Conference on Science, Technology and Innovation (STI) in enhancing Delivery of the Big Four Agenda, 23<sup>rd</sup> – 25<sup>th</sup> June, Nairobi, Kenya.
80. Belachew Asteray, **Oyawa, W. O.**, & Shitote, S. M. (2017). “Utilization of Waste Glass Powder and Rice Husk Ash for Development of Eco-friendly Reactive Powder Concrete”, *Proceedings of the Africa Engineering Conference with UNESCO-Africa Egeineering Week*, Kigali: Rwanda.
81. Okumu, V. A., **Oyawa, W. O.**, & Shitote, S. M. (2016). “The Effect of the Properties of Constituent Materials on the Quality of Concrete in Kenya”, *Proceedings of the 2016 Annual Conference on Sustainable Research and Innovation (SRI)*, Nairobi: Kenya, pp. 225-230.
82. **W. O. Oyawa**, Naftary K. Gathimba, and Geoffrey N. Mang'uriu (2015) “Innovative composite concrete filled plastic tubes in compression”, The 2015 World Congress on Advances in Structural Engineering and Mechanics (ASEM 15), Incheon, Korea, 25<sup>th</sup> – 29<sup>th</sup> August.
83. **W. O. Oyawa**, Njike Manette and Timothy Musiomi (2015) “Development of a two-storey model eco-house”, *Proceedings of the Second International Conference on Performance-based*





and Life-cycle Structural Engineering (PLSE 2015), 9 –11 December 2015, Brisbane, Australia, pp. 1609 - 1618.

84. **W. O. Oyawa, (2012)** “Advancing The Eco-Village Approach For Sustainable Living Environment”, Moi University 8<sup>th</sup> Annual International Conference, 4<sup>th</sup> -8<sup>th</sup> September, Eldoret, Kenya. (**Keynote Paper**)
85. N.K. Maritim, **W. O. Oyawa**, R.N. Mutuku and R.O. Onchiri (2012) “Deformation Behavior of Simply Supported One-Way Reinforced LATCON Slabs”, Moi University 8<sup>th</sup> Annual International Conference, 4<sup>th</sup> -8<sup>th</sup> September, Eldoret, Kenya.
86. **W. O. Oyawa, (2011)** “The Role of Engineering in the provisions of affordable housing towards sustainable development”, JKUAT Scientific, Technological and Industrialization Conference, 16-18<sup>th</sup> November, Nairobi, Kenya. (**Lead Paper**)
87. **W. O. Oyawa and I.A. Rubaratuka, (2010)** “Next frontiers in Engineering education and practice”, Proceedings of International Symposium on Modernizing local sustainable technologies as the engine for sustainable development, 25-26<sup>th</sup> February, Nairobi, Kenya, pp. 139-148.
88. **Walter O. Oyawa, (2010)** “Africa’s challenge towards emerging environmental issues and needs for higher education’ International Forum on Higher Education for Global Environmental Leaders, 2<sup>nd</sup> December, Nagoya, Japan. (**Invited Speaker and Panelist**)
89. **Walter O. Oyawa, (2010)** “Empowering Coastal people in the provision of sustainable Shelter”, Coast Peoples’ Investment Conference on Harnessing Coastal Resources, 25-26<sup>th</sup> January, Mombasa, Kenya. (**Invited Speaker**)
90. **T. Musiomi, W. O. Oyawa and P. Mulu, (2010)** “Laterized quarry dust and recycled concrete for sustainable concrete structures”, Proceedings of International Symposium on Modernizing local sustainable technologies as the engine for sustainable development, 25-26<sup>th</sup> February, Nairobi, Kenya, pp. 45-56.
91. **Walter O. Oyawa, (2010)** “Civil Engineering Infrastructure in Kenya’, Special Seminar for Civil Engineering faculty and students, 3<sup>rd</sup> December, Nagoya, Japan. (**Invited Speaker**)
92. **I.F. Sanewu and W. O. Oyawa, (2010)** “Total quality management as a control tool in the construction industry for sustainable development”, Proceedings of International Symposium on Modernizing local sustainable technologies as the engine for sustainable development, 25-26<sup>th</sup> February, Nairobi, Kenya, pp. 73-81.
93. **N.K. Maritim, R.N. Mutuku, C.K. Kabubo and W. O. Oyawa, (2010)** “Experimental study of bamboo as a sustainable reinforcement of concrete beams”, Proceedings of International Symposium on Modernizing local sustainable technologies as the engine for sustainable development, 25-26<sup>th</sup> February, Nairobi, Kenya, pp. 25-33.
94. **Walter O. Oyawa, (2010)** “Improving conventional construction materials in tune with sustainable construction technologies”, the 3<sup>rd</sup> Seminar on Infrastructure technologies for sustainable development, 21<sup>st</sup> September, Kyoto, Japan.
95. **Walter O. Oyawa and Osuke Komazawa, (2009)** “Re-engineering global approach to sustainable development”, DAAD scholars National Conference on Science and Technology,



- 11-12<sup>th</sup> June, Masinde Muliro University of Science and Technology, Kakamega, Kenya.
96. **Osuke Komazawa and Walter O. Oyawa, (2009)** “Launching research leaders of the 21<sup>st</sup> century: Opportunity at JSPS”, DAAD scholars National Conference on Science and Technology, 11-12<sup>th</sup> June, Masinde Muliro University of Science and Technology, Kakamega, Kenya.
  97. **Oyawa, W.O. (2007)**, “Providing visibility for local sustainable construction materials through drastic paradigm shift in policy and standards”, Proceedings of annual engineers conference, organized by the Institution of Engineers of Kenya, 25<sup>th</sup> – 27<sup>th</sup> April, 2007, Nairobi, Kenya.
  98. **Nelson K. Maritim, Walter O. Oyawa and Raphael N. Mutuku (2008)**, “Comparison of serviceability design requirement and experimental results of timber trussed system”, Proceedings of 2<sup>nd</sup> International Civil Engineering Conference on Civil Engineering and Sustainable Development, Organized by Kyoto University, Japan and JKUAT, Kenya, 23-25<sup>th</sup> September, Mombasa, Kenya.
  99. **W. O. Oyawa , T. M. Musiomi and G. Manguriu (2008)**, “ Effect of Concrete Strength on the Strength and Ductility of Composite Concrete - Filled Plastic Tubes”, Proceedings of 2<sup>nd</sup> International Civil Engineering Conference on Civil Engineering and Sustainable Development, Organized by Kyoto University, Japan and JKUAT, Kenya, 23-25<sup>th</sup> September, Mombasa, Kenya.
  100. **Timothy M. Musiomi ,Walter O. Oyawa and Paul Mulu (2008)**, “Strength Performance Of Concrete Utilizing Laterized Quarry Dust As Fine Aggregates”, Proceedings of 2<sup>nd</sup> International Civil Engineering Conference on Civil Engineering and Sustainable Development, Organized by Kyoto University, Japan and JKUAT, Kenya, 23-25<sup>th</sup> September, Mombasa, Kenya.
  101. **Walter O. Oyawa, Mathew Winja and L.M. Njuki (2008)**, “Re-engineering earth and local plants as sustainable building materials”, Proceedings of 2<sup>nd</sup> International Civil Engineering Conference on Civil Engineering and Sustainable Development, Organized by Kyoto University, Japan and JKUAT, Kenya, 23-25<sup>th</sup> September, Mombasa, Kenya.
  102. **Timothy M. Musiomi , Walter O. Oyawa and Paul Mulu (2008)**, “Strength Performance of stabilized laterized quarry dust masonry blocks”, Proceedings of 2<sup>nd</sup> International Civil Engineering Conference on Civil Engineering and Sustainable Development, Organized by Kyoto University, Japan and JKUAT, Kenya, 23-25<sup>th</sup> September, Mombasa, Kenya.
  103. **Oyawa, W.O. (2007)**, “Indigenous Technologies and norms as the Key to Sustainable Development”, *Proceedings of KSEE-JSAEM International Engineering Conference*, AICAD-Juja, Kenya, 9 – 10 August.
  104. **Oyawa, W.O. (2007)**, “Integrating the Spiritual/Cultural dimension as the Nexus of Sustainable Development”, Proceedings of JKUAT Scientific, Technological and Industrialization Conference, 25<sup>th</sup> –26<sup>th</sup> October, Juja, Kenya.
  105. **Oyawa, W.O. and Musiomi T. M. (2007)**, “Behavior of concrete-filled polymer tube subjected to axial compression”, Proceedings of JKUAT Scientific, Technological and Industrialization Conference, 25<sup>th</sup> –26<sup>th</sup> October, Juja, Kenya.



106. **Oyawa, W.O. and Musiomi T. M. (2007)**, “Comparative Performance Study of Large Scale Wall Panels of Eco-Blocks with Different Mortars”, Proceedings of JKUAT Scientific, Technological and Industrialization Conference, 25<sup>th</sup> –26<sup>th</sup> October, Juja, Kenya.
107. **Oyawa, W.O. and Musiomi, T. M. (2007)**, “Experimental Behavior of Large Scale Wall Panels of Eco-Blocks with Different Mortars”, proceedings of annual engineers conference, organized by the Institution of Engineers of Kenya, 25<sup>th</sup> – 27<sup>th</sup> April, 2007, Nairobi, Kenya.
108. **Oyawa, W.O. (2007)**, “Local materials and technologies for sustainable construction”, *Proceedings of Civil engineering symposium*, Kenya, 8<sup>th</sup> January, pp. 29-36.
109. **Oyawa, W.O. (2006)**, “African Spirit and Local Technologies as the Key to Sustainable Development”, *Proceedings of World Association of Industrial and Technological Research Organizations (WAITRO) Congress 2006*, Saskatoon, Canada, 8 – 10 August. **KEYNOTE PAPER**
110. **W. O. Oyawa, J. Kiibiy and P.M.A. Odira (2008)**, “Emerging Realms and Frontiers in Civil Engineering Education and Training”, Proceedings of 1<sup>st</sup> International Civil Engineering Symposium on Re-orienting Civil Engineering Education and Training, Organized by JKUAT, Kenya and Kyoto University, Japan, 25-26<sup>th</sup> September, ,Mombasa, Kenya.
111. **W. O. Oyawa, W. Ndirangu and J. Kiibiy (2008)**, “Enjoining the Academia and the Industry; Case of Civil Engineering Practice”, Proceedings of 1<sup>st</sup> International Civil Engineering Symposium on Re-orienting Civil Engineering Education and Training, Organized by JKUAT, Kenya and Kyoto University, Japan, 25-26<sup>th</sup> September, ,Mombasa, Kenya.
112. **Oyawa, W.O. (2005)**, “Promoting Eco-Materials for Shelter Provision”, *Proceedings of International Conference on The Engineer and the Millennium Development Goals*, Nairobi, Kenya, 27 – 29 April, Organized by IEK.
113. **Oyawa, W.O. (2005)**, “Local Eco-materials for sustainable housing in Kenya”, Book of Abstracts of 3<sup>rd</sup> International Eco-materials Conference, 14<sup>th</sup> – 17<sup>th</sup> Nov., Cuba.
114. **Oyawa, W.O. (2005)**, “Building and Infrastructure development embracing sustainable construction materials and techniques”, *Proceedings of JKUAT Scientific, technological and industrialization conference*, 27<sup>th</sup> – 28<sup>th</sup> October, Nairobi, Kenya. **LEAD PAPER**
115. **Oyawa, W.O. (2006)**, “Eco-materials and technologies for sustainable housing”, *AICAD day celebrations’ presentation*. **INVITED PAPER**
116. **Oyawa, W.O. (2006)**, “Current status of Journal of Civil Engineering Research and Practice”, Joint INASP-HINARI Workshop on Making African Journals More Visible, Nairobi, Kenya, 21 – 22 May.
117. **Oyawa, W.O., Mwatelah, J.K.Z. and Mulu, P. (2005)**, “Development of local cementitious materials for low-cost housing-phase II”, *AICAD Research presentations Seminar*, 12-15<sup>th</sup> September, Kenya.
118. **Oyawa, W.O., Watanabe, E. and Sugiura, K., (2004)**, “Analysis of Composite Stub Columns”, *Proceedings of Second International Conference on Bridge Maintenance, Safety and Management (IABMAS’ 04)*, Kyoto, Japan, 18 – 22 October.



119. **Oyawa, W.O. (2004)**, “Eco-materials for sustainable housing and infrastructure”, *Proceedings of World Association of Industrial and Research Organizations (WAITRO) Biennial Congress*, Nairobi, Kenya 6<sup>th</sup> -11<sup>th</sup> September.
120. **Oyawa, W.O., Sugiura, K., and Watanabe, E. (2003)**, “Filled steel composite columns subjected to cyclic loading”, *Proceedings of International Civil Engineering Conference on Sustainable Development in the 21<sup>st</sup> Century*, Nairobi, Kenya, 12-16 August, pp. 173-178.
121. **Oyawa, W.O. (2004)**, “Renaissance of local materials as eco-materials for sustainable development”, *AICAD Symposium on application of research results in dissemination*, 21<sup>st</sup> - 22<sup>nd</sup> June, Nairobi, Kenya.
122. **Mutuku, R.N., Oyawa, W.O. and Maritim, N.K. (2003)**, “Experimental behaviour of large-scale timber trusses subjected to point loads”, *Proceedings of International Civil Engineering Conference on Sustainable Development in the 21<sup>st</sup> Century*, Nairobi, Kenya, 12-16 August, pp. 159-164.
123. **Mulu, P.U., Makhanu, K.S., Mutuku, R.N., Mwatelah, J.K.Z. and Oyawa, W.O. (2003)**, “Characteristics of quarry dust as a low-cost construction material in Kenya”, *Proceedings of International Civil Engineering Conference on Sustainable Development in the 21<sup>st</sup> Century*, Nairobi, Kenya, 12-16 August, pp. 107-114.
124. **Oyawa, W.O. and Watanabe, E. (2003)**, “Eco-Materials: Innovative ecologically benign materials for sustainable construction in the 21<sup>st</sup> century”, *Proceedings of International Workshop on Recent Trends in Civil Engineering Practice*, Nairobi, Kenya, 14-15 August , pp. 33-45.
125. **Oyawa, W.O. and Watanabe, E. (2003)**, “Studies on municipal waste ash as Eco-aggregates in Eco-cement concrete”, *Proceedings of the 16<sup>th</sup> KKCNN Symposium on Civil Engineering*, Gyeongju, Korea, 8-10 December, pp. 149-154.
126. **Oyawa, W.O., Mwatelah, J.K.Z. and Mulu, P. (2004)**, “Development of local cementitious materials for low-cost housing”, *AICAD Research presentations workshop*, 12-16<sup>th</sup> January, Kenya, (Abstracts of AICAD Research Final Reports, Vol. 1, pp. 14-18).
127. **Sugiura, K., Watanabe, E. and Oyawa, W.O., (2001)**, “Design of fill material properties for strength and ductility of filled steel tube under compressive load”, *US-Japan Seminar on stability and stability related problems*, Kyoto, Japan, July 23<sup>rd</sup> -26<sup>th</sup>.
128. **Oyawa, W.O. (2001)**, “Challenges and opportunities for research and development of local sustainable building materials”, *Proceedings of Workshop on sharing experiences in poverty alleviation in the East African region and other regions*, organized by African Institute for Capacity Development (AICAD), Nairobi, Kenya, 14<sup>th</sup> – 15<sup>th</sup> June.
129. **Oyawa, W.O., Sugiura, K., and Watanabe, E. (2000)**, “Analysis and design of filled steel tubular stub columns”, *Proceedings of 4<sup>th</sup> International Conference on Composite Construction*, Banff, Canada, May 28<sup>th</sup> - June 2<sup>nd</sup>.
130. **Sugiura, K., Ono, K., Oyawa, W.O., Watanabe, E. and Yamaguchi, T. (2000)**, “Interface



- interaction in filled steel tubular members as modeled by open sandwich beams”, *Proceedings of 4<sup>th</sup> International Conference on Composite Construction*, Banff, Canada, May 28<sup>th</sup> - June 2<sup>nd</sup>.
131. **Sugiura, K., Oyawa, W.O. and Watanabe, E. (2000)**, “Elasto-Plastic Behaviour of Compressive Steel Rectangular Hollow Columns subjected Bi-Directional Horizontal Loads”, *Proceedings of the 3<sup>rd</sup> Symposium on Nonlinear Numerical Analysis and its Application to Seismic Design of Steel Structures*, Japan Society of Civil Engineers, Nagoya, Japan, January, pp. 97-104 (in Japanese).
132. **Oyawa, W.O., Sugiura, K., Ono, K., Watanabe, E., and Wakahara, N. (1999)**, “Load-deformation characteristics of sandwich beams with partial interaction”, *Proceedings of the 54<sup>th</sup> Annual Conference of the Japan Society of Civil Engineers*, Hiroshima, Japan, 22<sup>nd</sup> –24<sup>th</sup> September.
133. **Oyawa, W.O., Sugiura, K., Ono, K., Watanabe, E., Maza, J.M. and Wakahara, N. (1999)**, “Bond behaviour of steel-epoxy open sandwich beams in bending”, *Proceedings of the 7<sup>th</sup> East Asia-Pacific Conference on Structural Engineering and Construction*, Kochi, Japan, 27<sup>th</sup>-29<sup>th</sup> August, pp. 644-649.
134. **Watanabe, E., Sugiura, K. and Oyawa, W.O. (1998)**, “Elasto-plastic instability of steel compression tubular members subjected to cyclically applied bi-directional horizontal loads”, *Proceedings of the 2<sup>nd</sup> International Conference on Thin-Walled Structures*, Singapore, 2<sup>nd</sup>-4<sup>th</sup> December, pp. 809-816.
135. **Oyawa, W.O., Sugiura K. and Watanabe, E. (1998)**, “Elasto-plastic Behaviour of Filled steel tubular members under uniform bending”, *Proceedings of the 8<sup>th</sup> Quadri-lateral Seminar on Civil Engineering between Kyoto University, Korean Advanced Institute of Science and Technology, National Taiwan University and National University of Singapore (KKNN)*, Singapore, 30<sup>th</sup> November and 1<sup>st</sup> December, pp. 53-58.
136. **Watanabe, E., Sugiura, K. and Oyawa, W.O. (1998)**, “Strength and ductility of columns under simulated bi-directional loads”, *Proceedings of the 10<sup>th</sup> Earthquake Engineering Symposium*, Yokohama, Japan, 25<sup>th</sup>-27<sup>th</sup> November, pp. 2081-2086.
137. **Watanabe, E., Sugiura, K. and Oyawa, W.O. (1998)**, “Cyclic elasto-plastic behaviour of Tubular columns under bi-directionally applied loads”, *Proceedings of the 53<sup>rd</sup> Annual Conference of the Japan Society of Civil Engineers*, I-A95, Kobe, Japan, 4<sup>th</sup>-6<sup>th</sup> October, pp. 190-191.
138. **Watanabe, E., Sugiura, K., Nagata, K. and Oyawa, W.O., (1998)**, “Strength and ductility of steel piers for bridges”, *Proceedings of the 3<sup>rd</sup> German-Japanese Colloquium for steel and composite bridges*, Osaka, Japan, 7<sup>th</sup>-8<sup>th</sup> September, pp. 11-26.
139. **Watanabe, E., Sugiura, K. and Oyawa, W.O. (1998)**, “Strength and Ductility of Filled Steel



Composite Stub Columns under Compression”, *Proceedings of the 6<sup>th</sup> East Asia-Pacific Conference on Structural Engineering and Construction*, Taipei, Taiwan, 14<sup>th</sup>-16<sup>th</sup> January, pp. 713-718.

140. **Watanabe, E., Sugiura, K., Oyawa, W.O. and Mita, H. (1997)**, “Response of rectangular hollow steel columns to varied cyclic load paths”, *Proceedings of the 7<sup>th</sup> Tri-lateral Seminar/Workshop on Civil Engineering between Korean Advanced Institute of Science and Technology, National Taiwan University and Kyoto University (KAIST-NTU-KU)*, Kyoto, Japan, 1<sup>st</sup>–3<sup>rd</sup> December, pp. 21-26.
141. **Oyawa, W.O., Watanabe, E. and Sugiura, K. (1997)**, “Performance of Filled steel Tubular Members under Axial Compression Loads”, *Proceedings of the 52<sup>nd</sup> Annual Conference of the Japan Society of Civil Engineers*, CS-72, Tokyo, Japan, 10<sup>th</sup>–12<sup>th</sup> September, pp. 144-145.
142. **Maugo, S.N., Mutua, S.K. and Oyawa, W.O. (1995)**, “Cement strength testing; which way for Kenya!”, *Proceedings of the 50<sup>th</sup> Anniversary Engineers Conference of the Institution of Engineers of Kenya*, Nairobi, 22<sup>nd</sup>-24<sup>th</sup> November, pp. 105-110.
143. **Maugo, S.N., Mutua, S.K. and Oyawa, W.O. (1994)**, “In search of local standard sand for cement quality control”, *Proceedings of National Engineers seminar of the Institution of Engineers of Kenya*, Nairobi, 23<sup>rd</sup> – 25<sup>th</sup> March, pp. 115-120.

#### ◆ **Invited Lectures, Departmental Seminar papers and Newsletters**

144. **Oyawa, W.O. (2007)**, “Revival of earth-based sustainable construction materials”, Invited Lecture at Kyoto University, Structural Mechanics Laboratory, 10<sup>th</sup> October.
145. **Oyawa, W.O. and Njeruh, F.M. (2007)**, “Results of bilateral cooperation between Japan and Kenya”, Invited Lecture at Kyoto University, Structural Mechanics Laboratory, 10<sup>th</sup> October.
146. **Oyawa, W.O. (2004)**, “Research in the Department of Civil Engineering: Current Status and Vision”, *Research priority setting Workshop organized by JKUAT, Kenya*, 14 - 15 October.
147. **Oyawa, W.O. (2004)**, “Eco-materials: the present and future of cement and construction industries”, *JKUAT/Athi River Mining Seminar on Cement*, 28<sup>th</sup> April, JKUAT, Kenya.
148. **Oyawa, W.O. (2002)**, “Enhancing global partnership through cultural exchange and engineering collaboration” *Invited lecture*, 28<sup>th</sup> June, Kyoto University, Japan.
149. **Oyawa, W.O. (2002)**, “Collaboration in research and development for the improvement of infrastructure in developing countries” *Invited lecture*, 29<sup>th</sup> June, Osaka City University, Japan.
150. **Oyawa, W.O. (2002)**, “Enhancing global partnership through cultural exchange and engineering collaboration in the construction of infrastructure” *Invited lecture*, 30<sup>th</sup> June, Nagoya University, Japan.
151. **Oyawa, W.O. (2002)**, “Effects of multi-directional displacement paths on the cyclic behaviour



- of rectangular hollow steel columns” *Invited lecture*, 30<sup>th</sup> June, Nagoya University, Japan.
152. **Oyawa, W.O. and P. Mulu (2001)**, “Appropriate local construction materials; which way in research and development” *Departmental seminar*, 19<sup>th</sup> June, Department of Civil Engineering, JKUAT, Nairobi.
153. **Oyawa, W.O. (2000)**, “Structural response of filled steel composite members” *Seminar for presentation of PhD Thesis*, 21<sup>st</sup> February, Department of Civil Engineering, Kyoto University, Kyoto, Japan.
154. **Oyawa, W.O. (2000)**, “Recent trends in composite construction”, *Departmental seminar*, 15<sup>th</sup> August, Department of Civil Engineering, JKUAT, Nairobi.
155. **Oyawa, W.O. (1998)**, “Promoting mutual friendship between Japan and Kenya through Research and Cultural exchange”, *Invited Lecture*, 13<sup>th</sup> June, Bridge Engineering Laboratory, Osaka City University, Japan.
156. **Oyawa, W.O. (1994)**, “Performance of local sands in mortar for Cement Quality Control”, *Departmental seminar*, 4<sup>th</sup> November, Department of Civil Engineering, University of Nairobi.
157. **Oyawa, W.O., Eigawa, T., Ngugi, P. and Sitandi, D.O. (1992)**, “Studies on the structural use of light-weight reinforced concrete with pumice as coarse aggregate”, *Departmental seminar*, 25<sup>th</sup> June, Department of Civil Engineering, JKUAT, Nairobi.
158. **Oyawa, W.O. (2007)**, “Varsity establishes Sustainable Materials and Technology Centre (SMARTEC)”, *Agritec News*, October-Dec. Issue No. 30.
159. **Oyawa, W.O. (2005)**, “Sustainable construction techniques: JKUAT leads the way”, *AGRITEC News*, Vol 8(20), pp. 23-24.
160. **Oyawa, W.O. (2004)**, “Research the Mainstay of JKUAT: Promoting earth (soil) as the building material of the 21<sup>st</sup> Century”, *AGRITEC News*, Vol 6(18), pp. 7.

#### ◆ **Research/ Consultancy Reports and general articles/reports**

161. **Oyawa, W.O. and team members (2006)**, “Completion of Phase II Hall 7 Project”, Final Report I prepared as Project Manager, JKUAT.
162. **Oyawa, W.O., Mwatelah, J.K.Z. and Mulu, P.U. (2005)**, “Development of Local cementitious materials for low-cost housing-phase II”, African Institute for Capacity Development (AICAD) Research Report, Nairobi.
163. **Oyawa, W.O. and Watanabe, E. (2004)**, “Studies on Municipal Waste ash and Polymer concrete as Eco-materials for sustainable construction”, Japan Society for the Promotion of Science (JSPS) Summary Research Report, Tokyo, Japan.
164. **Oyawa, W.O., Mwatelah, J.K.Z. and Mulu, P.U. (2003)**, “Development of Local cementitious materials for low-cost housing”, African Institute for Capacity Development



(AICAD) Research Report, Nairobi.

165. **Oyawa, W.O. (2000)**, “Structural response of filled steel composite members”, *Ph.D. thesis*, Kyoto University, Japan.
166. **Mutuku, R.N., Asano, E., Oyawa, W.O. and Sitandi, D.O. (1995)**, “Structural behaviour of trussed systems under nodal point loads”, *Research report*, Department of Civil Engineering, JKUAT, Nairobi.
167. **Oyawa, W.O. (1995)**, “Performance of local sands in mortar for cement quality control”, *MSc thesis*, University of Nairobi, Nairobi.
168. **Eigawa, T., Ngugi, P., Oyawa, W.O. and Sitandi, D.O. (1992)**, “Studies on the structural use of light-weight reinforced concrete with pumice as coarse aggregate”, *Research report*, Department of Civil Engineering, JKUAT, Nairobi.
169. **Oyawa, W.O. and Maugo, S.N. (1996)** “Evaluation of local sands as standard sand for cement quality control”, *Summary report* to Bamburi P.C.Co., East African P.C.Co and Kenya Bureau of Standards.

#### ◆ **Research interests**

- (i) Sustainable construction materials and technologies
- (ii) Local materials as eco-construction materials of the 21<sup>st</sup> century
- (iii) Recycling of wastes for construction
- (iv) Composite structures

## **VII. MAJOR AWARDS, RESEARCH GRANTS AND FELLOWSHIPS**

#### ◆ **Awards**

- 2022: Fellow of the International Science Councils (ISC):** Attended the 18<sup>th</sup> Meeting of the Governing Board of the ISC held from 7<sup>th</sup> to 9<sup>th</sup> June 2022 in Paris, France where the award was delivered
- 2002: Most outstanding Paper award: Medal and Certificate for the Best Technical paper (Structural Engineering Division) of the Japan Society of Civil Engineers (JSCE):** Attended the 2002 General Assembly meeting of JSCE to receive the highly recognized award.
- 2007: Certificate of commendation/recognition, and inclusion in Marquis who’s who in Science and Engineering Biographical listing 2006-2007 Edition.**
- 2006: Certificate of commendation/recognition, and inclusion in Marquis who’s who in the World Biographical listing 2006 Edition,** as among those individuals who have demonstrated outstanding achievement in their own field of endeavour and who have thereby contributed significantly to the betterment of contemporary society in the world.
- 2005: Certificate of commendation** by JKUAT Vice Chancellor as an **innovator** and exhibitor, for outstanding contribution towards the success of the university exhibition in central ASK show and Nairobi international trade fair.





- 2005: Second prize** for JKUAT stand exhibiting sustainable building materials, during a Multinational Building Exposition at Kenyatta International Conference Centre (KICC), 7<sup>th</sup> – 9<sup>th</sup> October, Nairobi.
- 1998: Certificate of Best presenter**, on the Memorial Day of the Foundation of Kyoto University, Sanctioned by The Chair of Structural Engineering, Department of Civil Engineering, Kyoto University, 18<sup>th</sup> June.
- 1982: Awarded the Boy of the Year prize** at Starehe Boys' Centre and School, Nairobi, Kenya.

#### ◆ Research Grants

- 2015-2016: Principal Investigator** in African-ai-Japan Project, funded by JICA. Title “Development of Eco-villages”. Project Budget = **Kshs 1.5 million for 1 year**.
- 2014-2016 and 2009-2011: Principal Investigator/Project Coordinator of a multi-disciplinary research** “*Development of sustainable construction materials and technologies for Eco-housing/Infrastructure*”, a university project funded by JKUAT-RPE Division. Project budget = **Kshs 4.5 million for three years**.
- 2008-2011: Team member and Leader of African side in joint research** with scholars in Japan under the Japan Society for the Promotion of Science (JSPS) **Asia Africa Science Platform Program 2008** titled “*Transfer and evaluation system of self-sustaining technologies for rural infrastructures in east Africa*” under the coordination of Prof. M. Kimura of Kyoto University. Program budget = **15 million Japanese Yen** (about Kshs 10 million) for three years.
- 2004-2007: Team Leader in a joint research** with scholars in Japan. Research amount was **JYen 13 million** (about Kshs 9 million), part of which was used for local baseline studies while a portion was also used to purchase equipment (ground penetrating radar) worth Kshs 2.5 million for JKUAT.
- 2004: Research grant as Principal Investigator** in African Institute for Capacity Development (AICAD) research program on low-cost housing (*phase II*). Funded by JICA.
- 2002: Research grant as Principal Investigator** in African Institute for Capacity Development (AICAD) pilot research program on low-cost housing(*phase I*). Funded by JICA.

#### ◆ Post-Doctoral Fellowships/Academic visits

- 2012-2013: JSPS Research Fellowship**; Research Fellow at Kyoto University, Japan. Granted by **Japan Society for the Promotion of Science (JSPS)**, Japan.
- 2002-2004: JSPS Post-Doctoral Fellowship**: Post-Doctoral Research Fellow at Kyoto University, Japan. **Granted by Japan Society for the Promotion of Science (JSPS)**, Japan.
- 2002: Visiting Researcher, Kyoto University, Japan**: one week visit that included attending General Assembly meeting of Japan Society of Civil Engineers (JSCE) to receive the best technical paper award for the year 2002.
- 1996-2002: Ministry of Education, Japan (Monbusho) Scholarship** for research and PhD studies.



## **VIII. FUNDRAISING (General funds, Research funds, Training funds, Scholarships, Conference & Equipment Funding)**

### **◆ General funds/institutional support attracted**

1. 2022: As the International Centre for Genetic Engineering and Biotechnology (ICGEB) National Focal Point, successfully applied for and coordinated the establishment of ICGEB Regional Research Centre at Egerton University, Kenya.
2. 2022: As the International Centre for Genetic Engineering and Biotechnology (ICGEB) National Focal Point, successfully coordinated ICGEB grant proposal awards for FY 2021/2022
3. 2022: As the African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology (AFRA) National Coordinator, successfully coordinated AFRA grant proposal awards for FY 2021/2022
4. 2014-2015: As the Coordinator of iPIC (Innovation and Prototyping Integrated Centre), of **Africa-ai-Japan Project at JKUAT (supported by JICA, Japan), JKUAT is able to acquire funds from JICA for the renovation and extension of Engineering workshops at JKUAT, funds for purchase of equipment for engineering workshops, as well as research funds for individual researchers.**
5. **2013:** As Ag. Vice Chancellor and following presentation of proposals, Multimedia University of Kenya (MMU) was selected *by Kenyan and Korean Governments to host the upcoming world class Kenya Advanced Institute of Science & Technology. Approved budget was Kshs 7 billion. The Project has since been up-scaled by the Kenyan Government into a “Special Degree Awarding University” in line with the Universities Act, 2012.*
6. Dec. 2011 – Sep. 2013: As Ag. Vice Chancellor, Multimedia University of Kenya (MMU). GoK capitation for MMU was significantly increased from Kshs 230million/annum to Kshs 385million/annum after undertaking consultative discussions with Ministry staff.
7. **2010: Convenor/Chairman** of JKUAT proposal writing committee, leading to the selection of JKUAT to **host the Pan African University Institute (PAUISTI)** for the theme “Science, Technology and Innovation. This African Union (AU) regional institute for Eastern Africa is currently training postgraduate students from Africa mainly in Sciences and Engineering, and is supported by the African Union, Donor partner countries and the host country Kenya. Initial budget in the proposal was Kshs 600 million.

### **◆ Research and training funds attracted**

- 1) **2015-2016: Research grant as Principal Investigator** in African-ai-Japan Project, funded by JICA. Title “Development of Eco-villages”. Project Budget = Kshs 1.5 million.
- 2) **2008-2011: Team member and Leader of African side in joint research** with scholars in



Japan under the Japan Society for the Promotion of Science (JSPS) **Asia Africa Science Platform Program 2008** titled “*Transfer and evaluation system of self-sustaining technologies for rural infrastructures in east Africa*” under the coordination of Prof. M. Kimura of Kyoto University. Program budget = 15 million Japanese Yen (about Kshs 10 million) for three years.

- 3) 2011: Member of JKUAT team headed by Deputy Vice Chancellor (AA) that successfully initiated collaboration with GTIEA project in the training of small hydropower design for civil engineers in East Africa. Project budget is USD 106,630 (Kshs 8,530,400).
- 4) 2009-2012: Principal Investigator, under JKUAT Innovation Project (Research budget = Kshs 4.5 million) for a period of 3 years. Title of research program; “Development of sustainable construction materials and technologies for Eco-housing/infrastructure”.
- 5) 2004-2007: Jointly with our Japanese collaborators, and as Team Leader, we received research grants from the Ministry of Education, Japan, amounting to JYen 13 million (about Kshs 9 million), part of which was used for local baseline studies while a portion was also used to purchase equipment (ground penetrating radar) worth Kshs 2.5 million.
- 6) 2004: AICAD research phase II as Principal investigator (USD 8059.45  $\cong$  Kshs 604,458)
- 7) 2002: AICAD research phase I as Principal investigator (USD 7328.00  $\cong$  Kshs 555,462)
- 8) 1995: JICA research as member of Departmental team ( $\cong$  Kshs 900,000)

◆ **Conference, Symposium, Workshop funds attracted**

- 1) 2010; International Symposium on Modernizing local sustainable technologies as the engine for sustainable development, 25-26<sup>th</sup> February, Nairobi, Kenya (Registration fee support for over 50 participants from Japan Society for the Promotion of Science); as Convenor of symposium.
- 2) 2008; International Civil Conference on Sustainable Development, Mombasa, Kenya, as well as research (1,000,000 Jyen  $\cong$  Kshs 620,000 from Obayashi foundation); as Chairman of Organizing Committee.
- 3) 2008; International Symposium on Re-orienting Civil Engineering Education and Training, Mombasa, Kenya (Registration fee support for over 20 staff members from Japan Society for the Promotion of Science); as Convenor of symposium
- 4) 2003; International Workshop on recent trends in Civil Engineering Practice, Nairobi, Kenya (1,000,000 JYen  $\cong$  Kshs 620,000 from Obayashi foundation); as Convenor of workshop
- 5) 2003; International Civil Conference on Sustainable Development, Nairobi, Kenya (1,000,000 Jyen  $\cong$  Kshs 620,000 from Sumitomo company)



◆ **Equipment donated or developed through research funds**

- 1) 2004: Geophysical Investigation System by Radar (Yen 3,496,000 □ □ Kshs 2.5 million) purchased from joint research with Kyoto University
- 2) 2007: Paving block & Floor tile production unit (fabricated)
- 3) 2005: - Hollow block vibro-unit purchased from AICAD research (Kshs 33,628)
- 4) Soil/aggregate mortar-driven grinding equipment purchased from AICAD research (Kshs 60,000)
- 5) Rammed earth formwork and compactor fabricated from AICAD project/Hall 7 project (Kshs 25,000x10 sets = Kshs 250,000)
- 6) 2002: - Stabilized block press purchased from AICAD research (≅Kshs 35,000)
- 7) 2004: - Interlocking Stabilized block press purchased from JKUAT Hall 7 Project research (Kshs 50,000)
- 8) Fibre Concrete roofing tile machine purchased from AICAD research (□ Kshs 27,000)
- 9) 1995: Testing frame fabricated from JICA joint research by Departmental team (□ kshs 800,000)

## **IX. ATTENDED CONFERENCES, SYMPOSIUMS AND SEMINARS**

*(a) Paper presented*

1. **(2022)** 10<sup>th</sup> Rift Valley Technical Training Institute (RVTTI) International Conference, 22<sup>nd</sup> - 24<sup>th</sup> June 2022, Kenya. **(Keynote Speaker)**
2. **(2022)** 1<sup>st</sup> International Conference on Research, Innovations and Skills Exhibition (iCORISE), 2<sup>nd</sup> - 4<sup>th</sup> June, Mombasa, Kenya. **(Keynote Speaker)**
3. **(2021)** 15<sup>th</sup> JKUAT Scientific, Technological and Industrialization Conference, 25<sup>th</sup> – 26<sup>th</sup> March, Nairobi, Kenya. **(Keynote Paper)**
4. **(2021)** 3<sup>rd</sup> Tharaka University College Annual International Research Conference, 18<sup>th</sup> and 19<sup>th</sup> November, Kenya. **(Keynote Paper)**
5. **(2021)** 1<sup>st</sup> International Conference on Research Process and Research Ethics, Daystar University, 28<sup>th</sup> - 30<sup>th</sup> September, Nairobi, Kenya.
6. (2021) 2<sup>nd</sup> EAC Science, Technology, and Innovation Conference, EASTECO-EAC, 27<sup>th</sup> – 29<sup>th</sup> October, Bujumbura, Burundi.
7. (2021) 1<sup>st</sup> Blended Research Dissemination Conference, 30<sup>th</sup> – 31<sup>st</sup> August, Kakamega, Kenya. **(Guest Speaker)**
8. **(2021)** The 4<sup>th</sup> KIPPRA Annual Conference on Science, Technology and Innovation (STI) in enhancing Delivery of the Big Four Agenda, 23<sup>rd</sup> – 25<sup>th</sup> June, Nairobi, Kenya.
9. (2021) Multi-Sectoral Conference on STI Governane and Mainstreaming, 4<sup>th</sup> – 6<sup>th</sup> August, Naivasha, Kenya. **(Keynote Paper)**



10. (2015) The 2015 World Congress on Advances in Structural Engineering and Mechanics (ASEM 15), Incheon, Korea, 25<sup>th</sup> – 29<sup>th</sup> August.
11. (2015) The Second International Conference on Performance-based and Life-cycle Structural Engineering (PLSE 2015), 9 –11 December 2015, Brisbane, Australia, pp. 1609 - 1618.
12. (2012) Moi University 8<sup>th</sup> Annual International Conference, 4<sup>th</sup> -8<sup>th</sup> September, Eldoret, Kenya. **(Keynote Paper)**.
13. (2011) JKUAT Scientific, Technological and Industrialization Conference, 16-18<sup>th</sup> November, Nairobi, Kenya. **(Lead Paper)**
14. (2010) International Symposium on Modernizing local sustainable technologies as the engine for sustainable development, 25-26<sup>th</sup> February, Nairobi, Kenya.
15. (2010) International Forum on Higher Education for Global Environmental Leaders, 2<sup>nd</sup> December, Nagoya, Japan. **INVITED SPEAKER AND PANELIST**
16. (2010) Coast Peoples' Investment Conference on Harnessing Coastal Resources, 25-26<sup>th</sup> January, Mombasa, Kenya. **INVITED SPEAKER**
17. (2010) Special Seminar on “Civil Engineering Infrastructure in Kenya” for Civil Engineering faculty and students, 3<sup>rd</sup> December, Nagoya, Japan. **INVITED SPEAKER**
18. (2009) DAAD scholars National Conference on Science and Technology, 11-12<sup>th</sup> June, Masinde Muliro University of Science and Technology, Kakamega, Kenya.
19. (2008) The 2<sup>nd</sup> International Civil Engineering Conference on Civil Engineering and Sustainable Development, Organized by Kyoto University, Japan and JKUAT, Kenya, 23-25<sup>th</sup> September, Mombasa, Kenya.
20. (2008) The 1<sup>st</sup> International Civil Engineering Symposium on Re-orienting Civil Engineering Education and Training, Organized by JKUAT, Kenya and Kyoto University, Japan, 25-26<sup>th</sup> September, Mombasa, Kenya.
21. (2007) KSEE-JSAEM International Engineering Conference, AICAD-Juja, Kenya, 9<sup>th</sup> to 10<sup>th</sup> August.
22. (2006), World Association of Industrial and Technological Research Organizations (*WAITRO*) Congress, 8<sup>th</sup> – 10<sup>th</sup> August, Saskatoon, Canada. **KEYNOTE SPEAKER**
23. (2007), Annual Engineers conference organized by the Institution of Engineers' of Kenya, 25<sup>th</sup> – 27<sup>th</sup> April, Nairobi.
24. (2007), Civil Engineering Symposium, 8<sup>th</sup> January Nairobi, Kenya.
25. (2005), *JKUAT Scientific, technological and industrialization conference*, 27<sup>th</sup> – 28<sup>th</sup> October, Nairobi, Kenya. **LEAD PRESENTATION**
26. (2006), *Joint INASP-HINARI Workshop on Making African Journals More Visible*, Nairobi, Kenya, 21 – 22 May.
27. (2006), *AICAD Day celebrations' presentations*, 1<sup>st</sup> September, Juja, Kenya.
28. (2004), *World Association of Industrial and Research Organizations (WAITRO) Beinnial Congress*, Nairobi, Kenya 6<sup>th</sup> -11<sup>th</sup> September
29. (2005), *AICAD final reports presentation seminar*, 12<sup>th</sup> – 15<sup>th</sup> September, Nairobi, Kenya.
30. (2004), *AICAD Symposium on application of research results in dissemination*, 21<sup>st</sup> -22<sup>nd</sup> June,



Nairobi, Kenya.

31. (2003), *International Civil Engineering Conference on Sustainable Development in the 21<sup>st</sup> Century*, Nairobi, Kenya, 12-16 August.
32. (2003), *International Workshop on Recent Trends in Civil Engineering Practice*, Nairobi, Kenya, 14-15 August.
33. (2003), *The 16<sup>th</sup> KKCNN Symposium on Civil Engineering*, Gyeongju, Korea, 8-10 December.
34. (2003), *The 49<sup>th</sup> Structural Engineering Symposium*, Tokyo, Japan, 3<sup>rd</sup> -4<sup>th</sup> April.
35. (2004), *Research presentations workshop*, 12-16<sup>th</sup> January, Kenya.
36. (2000), *4<sup>th</sup> International Conference on Composite Construction*, Banff, Canada, May 28<sup>th</sup> - June 2<sup>nd</sup>.
37. (1999), *The 7<sup>th</sup> East Asia-Pacific Conference on Structural Engineering and Construction*, Kochi, Japan, 27<sup>th</sup>-29<sup>th</sup> August.
38. (2001), *Workshop on sharing experiences in poverty alleviation in the East African region and other regions*, organized by African Institute for Capacity Development (AICAD), Nairobi, Kenya, 14<sup>th</sup> – 15<sup>th</sup> June.
39. (1999), *the 45<sup>th</sup> Structural Engineering Symposium*, Nagoya, Japan, 6<sup>th</sup>-7<sup>th</sup> April.
40. (1998), *The 2<sup>nd</sup> International Conference on Thin-Walled Structures*, Singapore, 2<sup>nd</sup>-4<sup>th</sup> December.
41. (1998), *The 8<sup>th</sup> Quadri-lateral Seminar on Civil Engineering between Kyoto University, Korean Advanced Institute of Science and Technology, National Taiwan University and National University of Singapore (KKNN)*, Singapore, 30<sup>th</sup> November and 1<sup>st</sup> December.
42. (1998), *The 10<sup>th</sup> Earthquake Engineering Symposium*, Yokohama, Japan, 25<sup>th</sup>-27<sup>th</sup> November.
43. (1998), *The 53<sup>rd</sup> Annual Conference of the Japan Society of Civil Engineers*, Kobe, Japan, 4<sup>th</sup>-6<sup>th</sup> October.
44. (1998), *the 44<sup>th</sup> Structural Engineering Symposium*, Tokyo, Japan, 2<sup>nd</sup> -3<sup>rd</sup> April.
45. (1998), *The 6<sup>th</sup> East Asia-Pacific Conference on Structural Engineering and Construction*, Taipei, Taiwan, 14<sup>th</sup>-16<sup>th</sup> January.
46. (1997), *The 7<sup>th</sup> Tri-lateral Seminar/Workshop on Civil Engineering between Korean Advanced Institute of Science and Technology-National Taiwan University-Kyoto University (KAIST-NTU-KU)*, Kyoto, Japan, 1<sup>st</sup>-3<sup>rd</sup> December.
47. (1997), *The 52<sup>nd</sup> Annual Conference of the Japan Society of Civil Engineers*, Tokyo, Japan, 10<sup>th</sup>-12<sup>th</sup> September.
48. (1995), *The 50<sup>th</sup> anniversary conference of the Institution of Engineers of Kenya*, Institution of Engineers of Kenya, Nairobi, 22<sup>nd</sup>-24<sup>th</sup> November.
49. (1994), *National Engineers seminar of the Institution of Engineers of Kenya*, Institution of Engineers of Kenya, Nairobi, 23<sup>rd</sup> -25<sup>th</sup> March.

*(b) In attendance*

50. (2021), 28<sup>th</sup> Annual Engineers International Conference, Institution of Engineers of Kenya, 8<sup>th</sup> to 12<sup>th</sup> November, PrideInn Paradise Convention Centre, Mombasa.
51. (2020), 27<sup>th</sup> Annual Engineers International Conference, Institution of Engineers of Kenya, 24<sup>th</sup> to 27<sup>th</sup> November, PrideInn Paradise Convention Centre, Mombasa.
52. (2019), 26<sup>th</sup> Annual Engineers International Conference, Institution of Engineers of Kenya, 3<sup>rd</sup> to 6<sup>th</sup> September, Mombasa.
53. (2019), 17<sup>th</sup> Annual Internal Audit Conference, Institute of Internal Auditors, 6<sup>th</sup> to 10<sup>th</sup> May,



Mombasa.

54. **(2019)**, 5th PASET (Partnership for Skills in Applied Sciences, Engineering & Technology) Forum: Destination Digital Africa: Preparing our Youth for the Future, 20-22 May, Kigali, Rwanda.
55. **(2018)**, 2<sup>nd</sup> Biennial Conference on the State of Higher Education in Kenya, 30<sup>th</sup> Oct. – 2<sup>nd</sup> Nov., Nairobi, Kenya.
56. **(2018)**, Annual Engineers International Conference, Institution of Engineers of Kenya, 17<sup>th</sup> to 21<sup>st</sup> September, Mombasa.
57. **(2017)**, 7<sup>th</sup> Annual Regional Conference on Human Resource Management & Professional Development in the Digital Age, Global Center for Corporate Management
58. **(2008)**, Copenmind exhibition of innovations and technologies, Copenhagen, Denmark.
59. **(2007)**, Technology conference on growing business through technology, organized by JKUAT and Kenya Gatsby Trust, 26<sup>th</sup> to 27<sup>th</sup> June, JKUAT-Juja
60. **(2006)**, International Conference on the Engineer and Regional Integration, 26<sup>th</sup> – 28<sup>th</sup> April, Nairobi.
61. **(2006)**, *JKUAT Scientific, technological and industrialization conference*, 27<sup>th</sup> – 28<sup>th</sup> October, Nairobi, Kenya.
62. **(2006)**, Workshop on JKUAT Intellectual property policy, 20<sup>th</sup> – 24<sup>th</sup> March, Naro Moru.
63. **(2005)**, Sensitization workshop on Business Incubation: The JKUAT Strategy”, 12-13<sup>th</sup> May, Machakos.
64. **(2004)**, Seminar organized by IEK/Athi River Mining on “*Concrete construction: Emerging trends*”, 27<sup>th</sup> April, Nairobi, Kenya.
65. **(2004)**, Research priority setting Workshop organized by JKUAT, Kenya, 14 - 15 October.
66. **(2004)**, Workshop organized by INASP (International Network for the Availability of Scientific Publications) on “*Strategic online publishing*”, 4<sup>th</sup> – 6<sup>th</sup> October, Nairobi, Kenya.
67. **(2004)**, E-learning workshop organized by JKUAT, Kenya, 18-28 October.
68. **(2002)**, Seminar organized by AICAD on “*Sharing experiences in poverty alleviation in East Africa and other regions*”, Nairobi, Kenya.
69. **(2002)**, Seminar organized by IEK on “*Preparation for the professional review*”, Nairobi.
70. **(2001)**, *Seminar on New Developments in East African Cement Standards*, Nairobi, 9<sup>th</sup> August.
71. **(2000)**, *Seminar on New Developments in Kenya Cement Standards*, Nairobi, 29<sup>th</sup> June.
72. **(1999)**, *Annual Conference of Civil Engineers (The Japan Society of Civil Engineers, Kansai chapter)*, Kyoto, Japan, 22<sup>nd</sup> May.
73. **(1998)**, *Annual Conference of Civil Engineers (The Japan Society of Civil Engineers, Kansai chapter)*, Osaka, Japan, 23<sup>rd</sup> May.
74. **(1998)**, *The 3<sup>rd</sup> German-Japanese Colloquium for steel and composite bridges*, Osaka, Japan, 7<sup>th</sup>–8<sup>th</sup> September
75. **(1998)**, *International Workshop on Recent Developments and Future Trends in Thin-Walled structures*, Singapore, 5<sup>th</sup> December.



76. (1998), *Workshop on Labour based technology in University training, Towards technology choice for sustainable economic development*, 18<sup>th</sup>–19<sup>th</sup> August, JKUAT-ILO/ASSIST, Nairobi, Kenya.
77. (1997), *7<sup>th</sup> International Conference on Structural Safety and Reliability*, International Association for Structural Safety and Reliability (IASSAR), Kyoto, Japan, 24<sup>th</sup>-28<sup>th</sup> November.
78. (1997), *Annual Conference of Civil Engineers (The Japan Society of Civil Engineers, Kansai chapter)*, Osaka, Japan, 24<sup>th</sup> May.
79. (1997), *International meeting for celebrating the 70<sup>th</sup> Anniversary of the Kansai Chapter of Japan Society of Civil Engineers*, Committee for celebrating the 70<sup>th</sup> Anniversary of the Kansai Chapter of Japan Society of Civil Engineers, 4<sup>th</sup> December, Osaka, Japan.
80. (1997), *Symposium of Prospects of Multi-phase Dynamics*, Kyoto University Commemoration Symposium, Kyoto, Japan.
81. (1996), *19<sup>th</sup> International Congress of Theoretical and Applied Mechanics*, International Union of Theoretical and Applied Mechanics, Kyoto, Japan, 25<sup>th</sup>-28<sup>th</sup> November.
82. (1996), *The 51<sup>st</sup> Annual Conference of the Japan Society of Civil Engineers*, JSCE, Nagoya, Japan, 17<sup>th</sup>–19<sup>th</sup> September.
83. (1996), *The 4<sup>th</sup> Steel structures symposium*, Japanese Society of Steel Construction, Tokyo, 26<sup>th</sup> – 27<sup>th</sup>, November.
84. (1996), *Annual Conference of Civil Engineers (The Japan Society of Civil Engineers, Kansai chapter)*, Kobe, 15<sup>th</sup> May.
85. (1996), *The 1<sup>st</sup> Japan Society for the promotion of science-National University of Singapore seminar on Integrated Engineering*, Faculty of Engineering, Kyoto University-National University of Singapore, 29<sup>th</sup> November.
86. (1991), *Seminar on Technological Solutions for economic development in Kenya, now and the 21<sup>st</sup> century*, JKUAT-JICA, 13<sup>th</sup> –14<sup>th</sup> March, Nairobi.

## **X. ACADEMIC VISITS TO MAJOR CONSTRUCTION PROJECTS**

- 2000: Visited the construction of the **Yumeshima-Maishima Bridge** in Japan, the world's first swing and floating bridge. Project team outlined the design and construction methods, followed by a guided tour of the construction site.
- 1999: Visited the **Sondu/Miriu Hydropower project** in Kenya. Project team outlined the construction methods, followed by a guided tour of the construction site.
- 1999: Visited the **Honshu-Shikoku Bridges** in Japan. Project team outlined the maintenance procedures.
- 1999: Visited the construction of the **Tatara Bridge** in Japan, the world's longest cable-stayed bridge. Project team outlined the design and construction methods, followed by a guided tour of the construction site.
- 1999: Visited the construction of the **Kiso/Ibe River Bridges** in Japan, the world's first Prestressed Concrete-steel composite Extradosed Bridge. Project team outlined the design and construction





- methods, followed by a guided tour of the construction site.
- 1999: Visited the construction of the **Tsukuhara Extradosed Prestressed Concrete Bridge** in Japan. Project team outlined the design and construction methods, followed by a guided tour of the construction site. An article was **published in Construction Review**: Journal of the construction industry.
- 1998: Visited the construction of the **Tomisato dam** in Japan. Project team outlined the design and construction methods, followed by a guided tour of the construction site. An article was **published in Kenya Engineer**, Journal of I.E.K.
- 1998: Visited the construction of the 2.3km **Daitaro tunnel** in Japan. Project team outlined the construction method, followed by a guided tour of the construction site.
- 1997: Visited the construction of the **Kurushima Linked Suspension Bridges** in Japan, the world's first independent three-successive suspension bridges. Project team outlined the design and construction methods, followed by a guided tour of the construction site. An article was **published in Kenya Engineer**, Journal of I.E.K.
- 1996: Visited the construction of the **Akashi-Kakyou Suspension Bridge** in Japan, the longest suspension bridge in the world. Project team outlined the design and construction methods, followed by a guided tour of the construction site.
- 1996: Visited the **restoration works** on bridges and elevated highway systems damaged during the 1995 Great Hanshin-Awaji (Kobe) Earthquake in Japan.