

## **CURRICULUM VITAE OF PROFESSOR A. O. COKER**

- A. Full Name:** Akinwale Oladotun COKER
- B. Contact Details:**
- 1. Home Address:** 16 Sankore Avenue, University of Ibadan, Ibadan, Oyo State
  - 2. Office Address:** Department of Civil Engineering, University of Ibadan, Ibadan, Oyo State
  - 3. E-mail Address(es):** [cokerwale@yahoo.com](mailto:cokerwale@yahoo.com) [oladotunc@gmail.com](mailto:oladotunc@gmail.com)
  - 4. Mobile Telephone Number(s):** +234-8033644074; +234-8092150892
- C. Date of Birth:** 11 September, 1966
- D. Marital Status:**
1. Married with children
  - 2. Spouse's name and Office address:**  
Dr. Mrs Morenike Eunice COKER,  
Faculty of Pharmacy, University of Ibadan, Ibadan, Oyo State
- E. Nationality:** Nigerian
- F. Town/State of Origin:** Abeokuta/Ogun State
- G. Institutions Attended and Academic Qualifications Attained with Dates**
1. University of Ibadan, Ibadan, Nigeria, B. Sc. (Hons), Civil Engineering (1987).
  2. Obafemi Awolowo University, Ile-Ife, M. Sc. Civil Engineering (1991).
  3. University of Ibadan, Ibadan, Nigeria, Ph.D (Environmental Engineering) (2002).
  4. Institute of Environmental Medicine and Hospital Epidemiology, University of Freiburg, Freiburg, Germany (February 2004 – July 2004). Post-doctoral Research in Environmental Engineering.
  5. School of Engineering and Built Environment, University of Wolverhampton, Wolverhampton, UK (July 2007 – November 2007). Post-doctoral Research in Environmental Engineering.
- H. Membership of Academic and Professional Bodies (with Dates)**
1. Member, Nigerian Society of Engineers, Membership No. 08997 (1998)
  2. Member, Nigerian Institution of Environmental Engineering (NIEE) (2010) and **Fellow, NIEE (2021)**
  3. Member, Biomedical Engineering Society, USA (2014)
  4. Member, American Society for Engineering Education (2016)
  5. Member, Engineering World Health (2017)
  6. Member, American Society of Tropical Medicine & Hygiene (ASTMH) (2022)

**I. Professional and Academic Achievements:**

1. Registered Engineer, COREN No. 11123 (2005).
2. Award of Fellowship by Nigerian Institution of Environmental Engineering (2021).
3. Award of Excellence during the 2023 World Engineering Day by The Nigerian Society of Engineers (March 2023).
4. Award of Excellence by the Fogarty International Center, National Institutes of Health (NIH), USA (2019) for effective execution of Framework Biomedical Engineering Grant, jointly shared with Site Principal Investigators of University of Lagos, University of Cape Town and Northwestern University, Chicago.

**J. Details of Working Experience at University Level (with dates):**

**a. Teaching and Research Experience:**

**2022 – 2023:** Visiting Professor. Pan African University – Institute for Water & Energy Sciences, including Climate Change (PAUWES), University of Tiemcen, Algeria.

**2019 – Date:** Adjunct Professor in the **Department of Biomedical Engineering**, Faculty of Technology, University of Ibadan. Has official **joint appointment as Professor of Civil and Biomedical Engineering at the University of Ibadan.**

**2019 – 2020:** Pioneer Vice-Chancellor, Moshood Abiola University of Science and Technology (MAUSTECH), Abeokuta, Ogun State.

**2017 (March–April):** Visiting Professor, University of the West of England, Bristol, UK.

**2014 – 2018:** Adjunct Professor, Centre for Urban and Rural Research, Alabama A and M University, Alabama, USA.

**2013 – 2018:** Affiliate Professor, Department of Biomedical Engineering, Northwestern University, Evanston, Illinois, USA.

**2013 – 2015:** Adjunct Professor, Civil Engineering Department, Afe Babalola University, Ado Ekiti, Ekiti State

**2012 – 2017:** Visiting Professor and PhD Research Advisor, School of Technology, University of Wolverhampton, Wolverhampton, UK.

**2011 – 2012:** Visiting Professor, Civil Engineering Department, Covenant University, Ota.

**2010 – 2011:** Visiting Professor, Civil Engineering Department, Osun State University, Osogbo.

**2010 – Date:** **Professor, Department of Civil Engineering, University of Ibadan, Ibadan. (First Alumnus Professor and Substantive Head of Department from 2014 to 2018)**

**2010 – 2019:** Adjunct Professor in the **Department of Environmental Health**, Faculty of Public Health, College of Medicine, University of Ibadan.

- 2007 – 2008:** Visiting Senior Lecturer, Department of Civil Engineering, University of Agriculture, Abeokuta
- 2006 – 2007:** Visiting Senior Lecturer, Department of Civil Engineering. Covenant University
- 2002 – 2010:** Senior Lecturer, Department of Civil Engineering, University of Ibadan, Ibadan.
- 1995 – 2002:** Lecturer 1, Department of Civil Engineering, University of Ibadan, Ibadan.
- 1991 – 1995:** Lecturer II, Department of Civil Engineering, University of Ibadan, Ibadan.

**b. Experience in Supervision of Undergraduate and Postgraduate Projects:**

1. Eighty-eight (88) B. Sc. Projects supervised from **1991 – 2023**
2. Seventy-Six (76) M.Sc. Dissertations supervised from **2002-2023**
3. Major Supervisor of completed thirteen (13) Ph.D. Thesis from **2009 – 2023**
4. One (1) PhD and four (4) MSc candidates being currently supervised.

**K. ICT Proficiency:**

1. File management using productivity software (word processors, spreadsheets and PowerPoint presentation tools).
2. Academic research tools and databases, search engines, learning experience platforms etc
3. Online lecturing, video conferencing tools (Zoom, Microsoft Teams, GoToWebinar, Google Meet).
4. Collaboration platforms (Google Drive, Dropbox).
5. Professional networking platforms (ResearchGate, LinkedIn).

**L. Details of Administrative and Managerial Experience**

1. Appointed as Chairman, Geohackathon Organising Committee for Exhibition of Inventions, Creative works at the 75<sup>th</sup> Foundation Day of the University of Ibadan (UI) slated for November 2023.
2. Appointed in 2017 as Member, Committee on the Review of the University of Ibadan Research Policy, Research Management Office's Structure and Operations.
3. Served as External Examiner/Research Co-Supervisor between 2009 and 2023 in respect of undergraduate and postgraduate (M. Sc. and Ph. D.) programmes in nine Nigerian Universities and in other Universities in Algeria, Kenya, South Africa, Uganda and the UK.
4. Served as External Assessor in respect of professorial promotions for candidates in thirteen Federal Universities, eight State Universities and two Private Universities in Nigeria as well as for candidates in three Universities in Ghana. About forty candidates have been assessed for promotions by

Professor Coker in these Universities between 2012 and 2023. He has also served as panel member during the interview of candidates for the positions of Vice-Chancellor and Registrar of a Nigeria-based Private University in 2018 and in 2023.

5. Member, Science and Technology Research Ethics Committee, University of Ibadan (2014 - Date)
6. Served the University of Ibadan as a member of the Procurement and Planning Committee as well as Tenders Board. Background as a Civil Engineer were handy in these two committees wherein Coker functioned between 2014 and 2018.
7. Was a member of the Management Committee for UI's Multi-Disciplinary Central Laboratory from 2014 to 2019.
8. Elected as Secretary, Vice-President and later as President of the University of Ibadan Teachers Cooperative Society in 2004, 2008 and 2014 respectively. Four-year Tenure as President led to opening and development of virgin lands bought previously by the Cooperative Society.
9. Appointed in 2013 (served till 2019) by the Federal Government of Nigeria as a Member of Specialised Assessment Committee (Engineering and Technology) for the Nigerian National Merit Award (NNMA) – highest academic award bestowed on worthy Nigerian professionals at home or in diaspora, by the President and Commander-in-Chief of the Armed Forces, Federal Republic of Nigeria.
10. Represented the University of Ibadan Congregation on the Senior Staff Housing Committee between 2014 and 2016
11. Served as resource personnel on accreditation and resource verification panels of the National Universities Commission and of Council for the Regulation of Engineering in Nigeria, to eight Universities in Nigeria.
12. Member of the Governing Council of Precious Cornerstone University, Ibadan from 2018 till Date.
13. Appointed in 2019 by Ogun State Government as Pioneer Vice-Chancellor of the upcoming Moshood Abiola University of Science and Technology (MAUSTECH), Abeokuta, Nigeria. Served there till 2020.
14. Appointed in June 2020 as Member of Working Group of Federal Government of Nigeria COVID-19 Research Consortium (NCRC). Later assigned in October 2020 to co-lead the Working Group on Infections Prevention and Control, including Healthcare Workers Protection.
15. Served as Acting Head of Department of Civil Engineering in 2008 – 2010, and later between 2014 and 2018, as the Substantive Head of Department. Tenure as Head of Department witnessed many achievements, notable

among them being creation of the Departments of Architecture, Biomedical Engineering and Quantity Surveying at University of Ibadan. A linkage between Civil Engineering Department, UI with University of the West of England, Bristol was also cemented. This good collaboration which started in 2010 is still active till date.

16. Represented the Faculty of Technology of University of Ibadan on the University's Appointments and Promotions Committee between 2012 and 2014.
17. Elected in 2011, as the Director, Nigeria Network for Awareness and Action for Environmental Health (NINAFEH), an NGO devoted to community service and projects.

#### **M. Research Grants:**

1. Chevron Corporate Grant for Scaling Rice360 Institute for Global Health Technologies Invention Education in Nigeria **(2023 - 2024, Role: UI Site PI)**.
2. Grant on HIV DNA/RNA RT-LAMP Detection, awarded by the Institute of Global Health, Northwestern University, Chicago, USA **(2022 - 2024, Role: UI Site Co - PI)**.
3. Grant awarded by the University of Ibadan to design and fabricate non-contact handwashing devices for use in the University during the COVID-19 epidemic. **(2020 - 2021, Role: PI)**
4. COVID-19 Grant awarded by the Institute of Global Health, Northwestern University, Chicago, USA. **(2021 - 2023, Role: UI Site PI)**.
5. Newborn Essential Solutions and Technologies (NEST) Grant, awarded by consortium of MacArthur Foundation, Gates Foundation, Children Investment Fund Foundation, Lemelson Foundations, ELMA Philanthropies and others **(2019 - 2028, Role: UI Site PI)**.
6. The C-THAN Grant awarded by National Institute of Biomedical Imaging and Bioengineering by USA-based National Institutes of Health (NIH), **(2019 - 2028, Role: UI Site PI)**.
7. Remanufacture Grant awarded by the Royal Society, UK **(2018 - 2024, Role: UI Site PI)**.
8. The Urban Research Nigeria Grant awarded by the Department for International Development (DFID) of the UK government **(2015 - 2017, Role: UI Site PI)**
9. Framework Biomedical Engineering Grant awarded by the Fogarty International Center, NIH, USA **(2013 - 2018, Role: UI Site PI)**
10. The Grant of British Council and the UK Department for Business, Innovation and Skills **(2010 - 2012, Role: UI Site PI)**.
11. Senate Research Grant, Mission Research Grant, MacArthur Foundation Grant and TETFUND Conference Grant **(all awarded by the University of Ibadan between 1995 and 2015)**.

## **N. Current Research Activities:**

1. Remanufacture: A Strategy to Enable Affordable Quality Healthcare in Developing Countries.
2. Newborn Essential Solutions and Technologies.
3. Development of A limited Contact Patient-Posture Change Mechanism for Efficient Management of critically ill Patients.
4. Development of a Low-Cost Automated Adaptable Handwashing Device for Prevention of the Spread of Communicable Diseases.
5. HIV DNA/RNA RT-LAMP Detection.
6. Climate Change and Health.
7. Water Resources Management
8. Waste-to Wealth Studies
9. Waste-to- Energy Studies
10. Science, Technology, Engineering and Mathematics (STEM) and Innovations
11. Invention Education

## **O. Publications:**

### **a. Thesis/Dissertation:**

1. **Ph. D Thesis:** Engineering Applications for Management of Hospital Wastes in Ibadan, Nigeria (University of Ibadan).
2. **MSc Dissertation:** The Effects of High Velocity Gradients in Water Coagulation (OAU, Ile-Ife).

### **b. Publications Indexing:**

1. Google Scholar: <https://scholar.google.com/citations?user=vcstopsAAAAJ&hl=en>
2. Researchgate: <https://www.researchgate.net/profile/Akinwale-Coker>
3. Scopus: <https://www.scopus.com/authid/detail.uri?authorId=8652384600>
4. Orcid: <https://orcid.org/0000-0002-2065-7179>

### **c. Books:**

1. Mynepalli Sridhar, Taiwo B. Hammed and **Akinwale Coker** (2023). "Biogas and Biomethanation" ISBN 978 - 978 - 59606 - 2 - 4 (in press)
2. Mynepalli Sridhar, **Akinwale Coker** and Olalekan Shittu (2020). Rain - A resource untapped. Published by Ecosolutions Limited, Ibadan, Nigeria, ISBN 978-978-57437-5-3, pp. 1 - 413.
3. Mynepalli Sridhar, Mumuni Adejumo, Taiwo Hammed and **Akinwale Coker** (2020). COVID-19 Pandemic & Other Viral Infections: A Guide for Prevention, Control and Coping Strategies in West Africa, Publisher SR&H Ecosolutions Ltd, Ibadan, Nigeria, ISBN 978-978 - 58234-5-5, pp. 1– 604.

4. Sridhar, M.K.C., **Coker, A.O.**, Adeoye, G.O., and Aikhomu, E.S. (2009): “Biogas Technology for Nigerian Communities”, Skill Books Concept, Abeokuta, Nigeria, ISBN: 978-978-906-729-9, pp. 1 – 110.

**d. Contributions to Books:**

5. Sridhar, M. K. C., **Coker, A. O.**, Shittu, O. I., Laniyan, T. A. and Achi, C. G. (2020), “Phytotechnologies in wastewater treatment: A low-cost option for developing countries”. In S. Charlesworth, C. A. Booth & K. Adeyeye (Ed.) Sustainable Water Engineering (Chapter 9), Elsevier Inc. 137-164.
6. **A.O. Coker**, F. O. Akintayo, C. G. Achi, M. A. Odeniyi, A. O. Olorunnisola, D. Akano. (2019). ‘Recent Developments in Biomedical Engineering Education in Africa: A Focus on Nigeria and the University of Ibadan’, In Biomedical Engineering for Africa. T. S. Douglas, Ed. Cape Town: University of Cape Town Libraries, pp. 11-17. <http://dx.doi.org/10.15641/0-7992-2544-0>
7. Saidi, O.O.E. Ajibola, A. Desmennu, B.R. Ojebuyi, O.A. Oladapo, O. Tade, C.G. Achi, O.J. Balogun , S.C. Nwaneri, A.I. Aiyegbusi, D.C. Umesi, A.B. James, **A.O. Coker**, C.J Achenbach (2019). ‘Problem Identification and Needs Assessment for Healthcare Technologies’, In Biomedical Engineering for Africa. T. S. Douglas, Ed. Cape Town: University of Cape Town Libraries, pp. 41-45. DOI: <http://dx.doi.org/10.15641/0-7992-2544-0>
8. T. Saidi, A.A. Dare, S.K. Fasogbon, O. Ewemoje, O. Anyaeche, M. Bolarinwa, O. Adetoyi, K. Adewole, O. Lawal, **A.O. Coker** (2019). ‘Materials for Medical Devices’, In Biomedical Engineering for Africa. T. S. Douglas, Ed. Cape Town: University of Cape Town Libraries, pp. 55-61.
9. **A.O. Coker**, T.A. Lawal, C.G. Achi, D. Akano , A.O. Olorunnisola, L. Cilenti, Y. Lee, J. Simkowski, F. Cummins, M.D. Doerfler, E. Glowik, R.C.C. Lu, A. Williams, M. Zeitz-Chua, I. Ikene, S. Das, D.W. Gatchell, M.R. Glucksberg, R.L. Murphy (2019). ‘Infant Warming Device for Neonatal Surgery in a Low-Resource Settings’, In Biomedical Engineering for Africa. T. S. Douglas, Ed. Cape Town: University of Cape Town Libraries, pp. 103-110. DOI: <http://dx.doi.org/10.15641/0-7992-2544-0>
10. G. Beukes, C.G. Achi, B. Bolasodun, A. Desmennu, A. Oloyo, O. Oyebola, O. Oyewola, T. Saidi, **A.O. Coker**, S. Sivarasu (2019) Needle Disposal Device for Use in Low-Resource Settings. In Biomedical Engineering for Africa. Douglas, T.S. Ed. 2019. Cape Town: University of Cape Town Libraries. 111–123. DOI: <http://dx.doi.org/10.15641/0-7992-2544-0>
11. O.A. Adejumobi , C.J. Diji, M.K.C. Sridhar, **A.O. Coker**, N. Idusuyi, C.G. Achi, O.O. Omotosho, T.O. Omobowale, A.O. Olorunnisola (2019) A Prototype Metabolic Cage for Rats and Mice for Biomedical Research in Nigeria. In Biomedical Engineering for Africa. Douglas, T.S. Ed. 2019. Biomedical Engineering for Africa. Cape Town: University of Cape Town Libraries. 140–145. DOI: <http://dx.doi.org/10.15641/0-7992-2544-0>
12. Akinwumi, I.I.; Booth, C.A.; Ojuri, O.O.; Ogbiye, A.S.; **Coker, A.O.** (2018) “Containment of Pollution from Urban Waste Disposal Sites”. In S.

Charlesworth & C. A. Booth (Ed.), *Urban Pollution: Science and Management* (Chapter 17). Wiley-Blackwell Publishing, 223-234

13. **A.O. Coker**, M. K. C. Sridhar, A. E. Osilagun and, C. G. Achi (2016). "Waste Management Challenges at a Religious Congregation: A Study from the South-West of Nigeria". In *Contemporary Nigeria: Transitional Agencies of Change*. Ed. Sati U. Fwatshak, Africa World Press, Inc. Trenton, New Jersey, USA Chapter 14, Page 183 -194
14. **Coker, A.O.**, Sridhar, M.K.C., Okareh, O.T. and Coker, M.E. (2015), "Controlling Exposure to Biological Hazards" In: C. McAleenan and D. Oloke (Ed.) *Institute of Civil Engineers Manual of Health and Safety in Construction*, Thomas Telford Ltd., London, U.K. 2nd Edition (ISBN: 978-0-7277-6010-4), page 145-1162
15. M. K. C. Sridhar and **A. O. Coker** (2015) Alum Recycling from Water Treatment Plants. In *Entrepreneurship in Waste Recycling*. Eds. Sridhar, M. K. C., Hammed T. B. and Okoye A. Book Builders, page 333-335.
16. Oloruntoba, E. O., **Coker, A. O.**, Olowokere, A. O. and Sridhar, M. K. C. (2011). "Gender Dimension of Household Solid Waste Management: A Comparative Study of Two Cities in Southwestern Nigeria". In *Beyond Tradition, African Women and Cultural Spaces*, Eds, Toyin Falola and S. U. Fwatshak, Chapter 21, Africa World Press, Inc. Trenton, New Jersey, USA, ISBN: 1-59221-847-4, Pages 283-300.
17. Sridhar, M.K.C. and **Coker, A.O.** (2009), "Treatment and Disposal of Healthcare Wastes" In: *Healthcare Waste Management – A Handbook for Developing Countries*, Ibadan University Press, Ibadan, Nigeria, ISBN: 978-978-8414-01-8, page 91-117.
18. **Coker, A.O.** and Olutoge, F.A. (2006), "Combating the Guinea worm Scourge in Nigeria: An Engineering approach" in: *Traditional and Modern Health Systems in Nigeria*, Africa World Press, Inc. Trenton, NJ, USA, ISBN: 1 – 59221 – 453-3, page 417-427.
19. Sangodoyin, A.Y. and **Coker, A.O.** (2002), "Environment and Waste Management in Nigeria: A Review" in: *Agricultural Engineering in Nigeria: 30 years of University of Ibadan Experience*, Aluelemhegbe Publishers.

**e. Published Journal Articles:**

20. O. J. Oyeboade, C. C. Okpala, S. M. Ajibade, N. M. Ogarekpe, S. A. Afolalu, **A. O. Coker**, S. G. Udeagbara and A. T. Adeniyi (2023). "Comparative Assessment of Medical Waste Management in Multi-System and Selected Teaching Hospitals in Ekiti State, Nigeria," *Nature Environment and Pollution Technology*, Vol. 22, No.2, 653 – 669.
21. C. V. Amaechi, E. C. Amaechi, S. C. Amaechi, A. K. Oyetunji, I. M. Kgoisemang, O. J. Mgbeoji, A. S. Ojo, A. M. Abelenda, M. Milad, I. Adelusi and **A. O. Coker** (2022). "Management of Biohazards and Pandemics: COVID-19 and its Implications in the Construction Sector", *Computational Water, Energy and Environmental Engineering*, Vol.11, No. 1, page 34 – 64.



22. O. J. Oyeboade, **A. O. Coker**, M. K. C. Sridhar, and N. M. Ogarekpe (2022). "Biomedical Waste Management Practices in Sub-Saharan Africa: Insights of Its Impacts and Strategies for Its Mitigation", *Advanced Manufacturing in Biological, Petroleum, and Nanotechnology Processing; Green Energy and Technology*, 249 – 256.
23. O. J. Oyeboade and **A. O. Coker** (2021). Management of Infrastructure in Water Sector: A Veritable Tool for Healthcare and Sustainable Development in Nigeria. *IOP Publishing Limited, Materials Science Engineering*, 1036, 1-10.
24. Achi, C.G., Omoniyi, A.M., and **Coker, A. O.** (2021), "Distribution of Selected Heavy Metals in Water and Sediment Phases in Ogbere River, South-West Nigeria." *Journal of Environmental Protection (JEP)*, Vol.12, No.7, pages 429 - 437.
25. C. G. Achi, A. M. Omoniyi, **A. O. Coker**, M. K. C. Sridhar (2021). "Multivariate Analysis of Sediment Quality in River Ogbere, Ibadan, South-West Nigeria." *H<sub>2</sub>Open Journal*, Vol. 4, No 1, Pp 1 - 11, DOI: 10.2166/h2oj.2021.057.
26. Nyirajana J., Akintayo F. O., **Coker A. O.** (2021), "Traffic Flow Rate on Kigali Roads: A Case of National Roads (RN1 and RN3)", *East African Journal Of Science, Technology and Innovation*, Vol. 2(3), E-ISSN: 2707-0425
27. E.O. Ige, AA Dare, **A. O. Coker**, CO Akintayo. (2021), "Controlled magnetic field influence for reperfusion in aortic blood flow using a unified solution approach" *International Journal of Medical Engineering and Informatics*, 13 (5), 419-431
28. E. O. Ige, A. A. Dare, K. A. Adeniyi, **A. O. Coker**, R. L. Murphy, M. Glucksberg and D. Gatchell (2021), "Suitability of Hood Geometry for Design of a PCM Neonate Incubator for Resource-Limited Clinical Applications." *Journal of Medical Systems*; Vol. 45, Issue 3, Page 32-37, DOI: 10.1007/s10916-021-01716-9, PMID: 33534025
29. Osikanmi, B.O., Mustapha, M., Sridhar, M.K.C. and **Coker, A.O.** (2020), "Hazard Identification and Risk Assessment-Based Water Safety Plan for Packaged Water Production Companies in Abeokuta, South West Nigeria." *Journal of Environmental Protection*, Vol. 11, No. 1, pp. 48-63.  
<https://doi.org/10.4236/jep.2020.111005>.
30. Oguntade, O. A., Sridhar, M. K. C., **Coker, A. O.** and Oyelekan, J. F. (2019). "Assessment of sanitary conditions and landscape design of Alagbafo natural spring, Kube-Atenda community, Ibadan." *World Journal of Engineering Research and Technology*, Vol. 5, Issue 3, pp. 115-132.
31. Abdullahi Adedotun, M. K. C. Sridhar and **A. O. Coker**, (2019), "Improving Municipal Solid Waste Collection System through A GIS Analytical Distribution And Optimization Mapping of Location Specific Waste Bins – A Study in Ibadan Metropolis, Nigeria." *The Journal of Solid Waste Technology and Management*, USA, Vol. 45, pp. 360-371
32. Mohammed Mustapha, M. K. C. Sridhar, **A. O. Coker** and Ayotunde Ajayi , Abubakar Suleiman, (2019), "Risk Assessment From Catchment To Consumers As Framed In Water Safety Plans: A Study from Maiduguri Water

- Treatment Plant, North East Nigeria.” *Journal of Environmental Protection*, Vol. 10, pp. 1373-1390
33. A.C. Ajibola, F. O. Sanni, T. V. Ajibola, Jolaoso I, Akagwu O., **A. O. Coker** (2019), “Knowledge, Perception, and Attitudes of Clients and Health Service Providers in Family Planning and HIV Clinics in Healthcare Facilities in Abuja, Nigeria”, *International Journal of Research and Scientific Innovation (IJRSI)*, Volume VI, Issue VIII, August 2019, ISSN 2321-2705, pp. 10-16
  34. A.C. Ajibola, F. O. Sanni, T. V. Ajibola, Jolaoso I, Akagwu O., **A. O. Coker** (2019), “Integration of Family Planning Services into Treatment Services in Healthcare Facilities in Abuja, Nigeria”, *IOSR Journal of Nursing and Health Science*, Volume VIII, Issue IV, pp. 22-27, ISSN 2329-1940, e-ISSN 2320-1959
  35. Ogbiye, S. A. **Coker, A. O.** and Diwa, D. I. (2018). “Water supply, sanitation and health risk in a tropical sub-saharan region”. *WIT Transactions on Ecology and the Environment*, Volume 228, pages 175 – 186.
  36. Sridhar M.K.C., **Coker A.O.** and Achi C. (2018), “Pollution from Small and Medium Size Enterprises: Less Understood and Neglected Sources in Nigerian Environment.” *Journal of Environmental & Analytical Toxicology*. DOI: 10.4172/2161-0525.1000558, ISSN: 2161-0525.
  37. Abdul-Majeed Mahamadu, Patrick Manu, Colin Booth, Paul Olomolaiye, **Akinwale Coker**, Ahmed Ibrahim, Jessica Lamond, (2018), "Infrastructure procurement skills gap amongst procurement personnel in Nigeria’s public sector", *Journal of Engineering, Design and Technology*, Vol. 16, Issue: 1, pp.2-24, ISSN 1726-0531.
  38. Manu, P., Mahamadu, A.-M. Booth, C., Olomolaiye, P., Ibrahim, **Coker, A. O.** (2018), “Assessment of procurement capacity challenges inhibiting public infrastructure procurement: A Nigerian inquiry.” *Built Environment Project and Asset Management*, 8 (4). pp. 386-402. ISSN 2044-124X.
  39. C.G. Achi, **A.O. Coker**, and M.K.C. Sridhar (2018), “Cassava Processing Wastes: Options and Potentials for Resource Recovery in Nigeria.” *Springer Nature Singapore Pte Ltd.* 2018 77. S.K. Ghosh (ed.), *Utilization and Management of Bioresources*, DOI 10.1007/978-981-10-5349-8\_8
  40. T.O. Odunola; M.K. Sridhar and **A.O. Coker** (2018) “Calorific Value of Wastes and Their Constituents in an Institution in South West Nigeria and Development of a Waste to Energy Model”. *International Journal of Energy Science and Engineering. (IJESE)*, 4(4), 44 - 50
  41. **A. O. Coker** (2018). Environmental Health Engineering: Cornerstone of the Builders for Advancing Human Well-being: **an Inaugural Lecture** Delivered at the University of Ibadan on Thursday, 21 June, 2018. Ibadan University Press.
  42. **Akinwale Coker** (2018), “Negative impacts of waste on human health and environment in Nigeria’s urban areas: Innovative solutions to the rescue.” *Global Health Innovation*, 1(2), 1-3. DOI: 10.15641/ghi.v1i2.689.
  43. C. K. Akintunde, **A. O. Coker**, M. K. C. Sridhar, I. A. Adetunde (2017), “Design and Fabrication of Syringe Needle Crusher.” *IOSR Journal of Engineering*, Vol. 7, Issue 11, pp 68 – 77

44. O. A. Mokuolu, **A. O. Coker**, M. Adejumo and M.K.C. Sridhar (2017), "Modelling a covered drainage system for the reduction of malaria prevalence." *Ain Shams Engineering Journal (ASEJ)*, Online Doi: 10-1-16;j.asej.2016.07.009, USA, Vol 7.
45. M. Ogidi, M. K. C. Sridhar, **A. O. Coker** (2017). "A follow-up study on health risk assessment of heavy metal leachability from household cookwares" *Journal of Food Science and Toxicology* 1 (3), 1-9
46. **A. O. Coker**, M. K. C. Sridhar, M. S. Awopetu, C. G. Achi (2017), "Utilisation of Granulated Scrap Tyre in Asphaltic Concrete Mixes: A Study of Agbabu Plain Bitumen in Nigeria", *Journal of Applied Science, Engineering and Technology*, Vol. 17(1), 77 - 82, <https://www.ajol.info/index.php/jaset/article/view/184814>
47. Oluwadamisi, E. A, Sridhar M. K. C, **Coker A. O.**, Jacob, S. O. (2017), "Septage Purification and Nutrient Uptake Potential of Water Hyacinth (*Eichhornia crassipes*) in a Batch System." *International Journal of Engineering Research and Management (IJERM)*, Europe, ISSN: 2349- 2058, Volume – 04, Issue - 02, February 2017, pp. 49-56.
48. O.O. Elemile, M.K.C. Sridhar, **A.O. Coker** (2017), "Diurnal and Seasonal Variations in Carbon Dioxide Emissions in a Solid Waste Management Facility, Akure, Nigeria", *World Journal of Research and Review*, ISSN: 2455-3956, Volume 4, Issue 3, March 2017, Pages 54-60.
49. Joseph Sunday Onyemesin, M.K.C. Sridhar and **A.O. Coker** (2017), "Causes and Prevention of Flooding and Erosion in Urban Centres: A Study of Kube-Atenda Community, Ibadan North Local Government Area, Oyo State, Nigeria." *International Journal of Scientific and Engineering Research*, UK, Vol 8, Issue 3, pp. 1-20.
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96. **A. O. Coker** (2019) "Application of HACCP Principles in the Assessment of Quality Water Used in Hemodialysis Centre of a Nigerian Tertiary Health Facility" Biomedical Engineering Society Annual Meeting, Philadelphia, Pennsylvania, USA, October 16 - 19, 2019
97. **A. O. Coker** (2019) "Remanufacturing as a Rescue Approach in Nigeria's Healthcare Sector" Proceedings of International Conference on Remanufacturing, Amsterdam, June 23 - 25, 2019.
98. **A. O. Coker** (2019) "Biomedical Engineering in Medical Education and Healthcare" Proceedings of 10th International Conference of the Consortium of New Sub-Saharan Medical Schools (CONSAMS), Edo University, Edo State, Nigeria, August 12, 2019.
99. **A. O. Coker** (2019) "Development of Curriculum for Masters programme in BME at the University of Ibadan." Faculty Development Workshop Presentation during 2-week Training on Active Learning Held at Duke University, Durham, North Carolina, USA, 26 February to 6 March 2020.
100. **A. O. Coker** (2019) "Biomedical Engineering, Engineering Products and Equipment from a Multi-Disciplinary Research Collaboration" The Nigerian

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101. **A. O. Coker** (2017), "Warming Solution for Neonatal Surgeries in Nigeria" and "Design and Fabrication of Needle Crusher", 3rd WHO Global Forum on Medical Devices' International Conference Center (CICG), Geneva, Switzerland, 10 - 12 May 2017.
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**P. Selected Conferences, Seminars, Symposia and Workshops Attended:**

- 1.** International Conference on Remanufacturing, held at Amsterdam, Netherlands, June 27 - 29, 2023.
- 2.** International Workshop on "Centre of Excellence for Remanufacture: Business Model and Reverse Logistics Network " held at the University of Strathclyde, Glasgow, United Kingdom on 15 - 17 May, 2023.
- 3.** International Workshop for PIs and Investigators on C-THAN Project held at Dakar, Senegal, 23 - 27 January, 2023.
- 4.** The National Environmental Health Business Forum organized by the Environmental Health Council of Nigeria, which held at Abuja on 11 - 13 October, 2022.
- 5.** The Nigerian Society of Engineers 5th College of Fellows Roundtable Symposium held at Abuja, Nigeria, on 16 November 2020.
- 6.** Virtual Workshop on Academia-Industry collaboration in teaching and research in Civil Engineering which held on 9 - 11, November 2020 organised by UK-based Royal Academy of Engineering and partnering universities on the SAICE-AFRICA Project.
- 7.** Faculty Development Workshop during 2-week Training on Active Learning Held at Duke University, Durham, North Carolina, USA, 26 February to 6 March 2020.
- 8.** International Workshop for PIs and Investigators on C-THAN Project held at Cape Town, South Africa, January 21 - 24, 2020.
- 9.** Biomedical Engineering Society Annual Meeting, Philadelphia, Pennsylvania, USA, October 16 - 19, 2019.
- 10.** International Conference of the Consortium of New Sub-Saharan Medical Schools (CONSAMS), Edo University, Edo State, Nigeria, August 12 -13, 2019.
- 11.** International Conference on Remanufacturing, held at Amsterdam, Netherlands, June 23 - 25, 2019.
- 12.** International Workshop for PIs and Investigators on C-THAN Project held at Cape Town, South Africa, January, 21 - 23, 2019.
- 13.** Biomedical Engineering Society Annual Meeting, Atlanta, Georgia, USA, October 17 - 20, 2018.
- 14.** Regional Seminar of the National Institutes of Health, Baltimore, Maryland, USA, 25 - 27 October, 2017.
- 15.** Biomedical Engineering Society Annual Meeting, Phoenix, Arizona, USA, 10-14 October, 2017.
- 16.** African Biomedical Engineering Curriculum Development Exchange, held at the University of Malawi, Blantyre, Malawi on 15 - 23 July, 2017.

17. Globethics Initiative for Ethics in Higher Education: Consortium Meeting, Geneva, Switzerland, 21 - 23 June, 2017.
18. The 3rd WHO Global Forum on Medical Devices' International Conference Center (CICG), Geneva, Switzerland, 10 - 12 May, 2017.
19. Training Workshop for Biomedical Engineering Academic Staff held at University of Cape Town, Cape Town, South Africa, 7 - 17 March, 2017.
20. The 1st University of Ibadan Technology Conference (UITECH2015). Theme: Energy Technology for Sustainable Development and Security. July 6 - 8, 2015.
21. The 30<sup>th</sup> International Conference on and Solid Waste Technology and Management, Philadelphia, USA, 15 - 18 March, 2015.
22. Istanbul International Solid Waste, Water and Wastewater Congress, held at Istanbul, Turkey, 22 - 24 May, 2013.
23. The National Conference on the Environment organized by the Nigerian House of Representatives, held at Abuja, 20 - 21 May, 2013.
24. UNILORIN 4th Annual and 2nd International Conference of Civil Engineering which held in 4 - 6 July, 2012.
25. The Second Ibadan Sustainable Development Summit (ISDS) held at The Centre for Sustainable Development, Ibadan, August 2011.
26. The 2nd International Symposium on Ecological Sanitation, Lubeck, Germany, 7 - 11 April, 2003.
27. The 29th Annual Conference of Water Engineering and Development Centre (WEDC), Loughborough University, UK, held at Abuja, Nigeria, 2003.
28. The 28th Annual Conference of Water Engineering and Development Centre (WEDC), Loughborough University, UK, held at Kolkata, India, 2002.
29. The 27th Annual Conference of Water Engineering and Development Centre (WEDC), Loughborough University, UK, held at Lusaka, Zambia, 2001.
30. The National Engineering Conference of the Nigerian Society of Engineers, held at Abuja, 2000.
31. Leadership Skill Training at Haggai Institute, Singapore August 1 - 24, 2000.
32. The 2nd International Conference of the CIB Task Group 29 on Construction in Developing Countries" Singapore, 1999.
33. The 25th Annual Conference of Water Engineering and Development Centre (WEDC), Loughborough University, UK, held at Addis Ababa, Ethiopia, 1999.
34. The 24th Annual Conference of Water Engineering and Development Centre (WEDC), Loughborough University, UK, held at Islamabad, Pakistan, 1998.
35. Conference of Nigerian Institute of Industrial Engineers, held at Ibadan, 1998.

**Q. Professor Coker's Contributions to Knowledge:**

1. My early publications stemmed from my doctoral research on the use of engineering principles to manage wastes from health-care facilities in Nigeria's largest indigenous city – Ibadan. The doctoral study provided for the first time baseline data on hospital waste quantification and characterization in Nigeria and came up with technologically appropriate methods for dealing with the solid,

semi-solid and liquid components of the wastes. The importance of the studies cannot be over-emphasised. This is because hospital records in Nigeria have confirmed a link of infectious diseases with improper management of health-care wastes.

**2.** Building upon my earlier findings, I led a research work into combating the “dracunculiasis” guinea worm scourge in Nigeria using engineering concepts to inhibit its transmission by eliminating the immediate host species of cyclops. A similar engineering principle was employed by my team in dealing with the menace of malaria prevalence in an endemic community in Ilorin, Nigeria. In recent years, I have worked on health and safety issues in construction sites. It has been found out that the two – health and safety are inextricably linked. The findings from this work are also useful in any environment (aside from construction sites) where people are exposed to biological hazards.

**3.** Leveraging on my Civil and Environmental Health Engineering background, I have participated in several Water, Sanitation and Hygiene (WASH) projects, especially in my capacity as a member and later as Director (2011 till date) of Nigeria Network for Awareness and Action for Environmental Health (NINAAFEH). Typical clients served were schools, markets and rural communities. It is noteworthy that I played principal role in a UNICEF – funded WASH project in Katsina (Northern Nigeria) in 2008 and in UNDP – sponsored WASH projects for Ado-awaye and Aje-ikose (both in Southwestern Nigeria) in 2003 – 2004 (two years).

**4.** Five patents have resulted from my research work over the years. In the past eleven years of delving into the field of Biomedical Engineering at the University of Ibadan (UI), I have led the UI team in conjunction with our American colleagues, to develop a number of biomedical engineering devices such as baby warmer, neonate incubator, phototherapy lamp, needle disposal device, blood glucose meter, electrical safety analyser, device for wound dressing, non-contact handwashing device, limited-contact patient-posture change device for critically ill patients, biomedical animal metabolic cage etc. Our approach had been to utilise appropriate technology tailored to Low - and Middle - Income Countries (LMIC) environments and conditions, thus making the devices more effective, affordable, accessible and user-friendly. I was part of the editorial team that published the first textbook, *Biomedical Engineering for Africa* in 2019 and launched our own journal, *Global Health Innovation* based at University of Cape Town Press, both accessible online without fees. The launch of the textbook and journal led to the US - based Fogarty International Center (Grant Provider) listing our Frameworks Biomedical Engineering project as one of Fogarty’s top ten achievements of 2019. Similarly, my research team came up with the first published book on COVID-19 pandemic in Nigeria in November 2020. Our literary contribution in this respect has received written commendation from Nigeria’s Presidency and the Nigeria Centre for Disease Control (NCDC) and others.

**Date:** 23 August, 2023