

CURRICULUM VITAE

A. GENERAL INFORMATION

1. **Name:** Oyetunji Babatunde Okedere
2. **Date and Place of Birth:** 26th January, 1978, Ejigbo.
3. **Gender:** Male
4. **Nationality:** Nigerian
5. **State of Origin:** Osun
6. **Local Government Area:** Odo - Otin
7. **Marital Status:** Married
8. **Names and Ages of Children:** Inioluwa E. Okedere (14 years)
Ireoluwa D. Okedere (11 years)
Ifeloluwa E. Okedere (7 years)
9. **Name and Relationship of Next of Kin with Telephone Number:** Olabisi Bamidele Okedere (Spouse)
08034394685
10. **Permanent Address:** No 38, Ifelodun Street, Owode-Ede
Osun State, Nigeria
11. **E-mail Address:** oyetunji.okedere@uniosun.edu.ng
12. **Registration with Research Gates:** Yes
13. **Link:** <https://www.researchgate.net/profile/Ob-Okedere>
14. **If No, Why:** N/A
15. **Registration with Google Scholar:** Yes
16. **Link:** <https://scholar.google.com/citations?user=AX216WEAAAAJ&hl=en>
17. **If No, Why:** N/A
18. **Cell Phone Number:** +2348069057019
19. **College /Faculty/Unit:** Science, Engineering & Technology/
Engineering
20. **Department:** Chemical Engineering
21. **Position on First Appointment:** Graduate Assistant
22. **Present Position & Salary:** Associate Professor, CONUASS 6/4
23. **Date of Present Position:** October 1, 2022
24. **Is your appointment confirmed?** Yes
25. **If No, why Not?** N/A
26. **Date of Confirmation of Appointment:** October 20, 2017

B. EDUCATIONAL BACKGROUND

1. Educational Institutions Attended with Dates

- (i) Obafemi Awolowo University, Ile-Ife 2012 – 2016
- (ii) Obafemi Awolowo University, Ile-Ife 2007 – 2011
- (iii) Obafemi Awolowo University, Ile-Ife 1997 – 2003
- (iv) Federal Polytechnic Ede, Osun State 1996 - 1997
- (v) Osun State School of Science, Ikirun 1993 – 1995
- (vi) Baptist Grammar School, Oko 1989 – 1991

2. Academic and Professional Qualifications with Date/Issuing Authority

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|--|--|
| (i) Ph.D. [Chemical Engineering] | 2016 OAU, Ile-Ife |
| (ii) Registered Engineer [Chemical Engineering] | 2014 COREN |
| (iii) M.Sc. [Chemical Engineering] | 2011 OAU, Ile-Ife |
| (iv) B.Sc. [Chemical Engineering]
Second Class (Upper Division) | 2004 OAU, Ile-Ife |
| (v) National Diploma [Computer Science] | 1997 Federal Polytechnic,
Ede, Osun State |
| (vi) SSCE | 1995 WAEC |

3. Other Relevant Qualifications: Nil

4. Honours, Awards and Distinctions

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|-------|--|
| (i) | 2007 Special Doctoral Staff Training Programme, Postgraduate Scholarship Award, Osun State University, Osogbo. |
| (ii) | 2015 Lecturer of the Year Award, Association of Civil Engineering Students, Osun State University, Osogbo, Nigeria – Plaque |
| (iii) | 2017 Award of Certificate of Excellence, Nigerian Institution of Civil Engineers, Students' Affiliate, Osun State University Chapter- Frame |
| (iv) | 2018 Award of Recognition on Immense Contributions and Positive Impact in Civil Engineering Department, Nigerian Institution of Civil Engineers, Students' Affiliate, Osun State University – Plaque |
| (v) | 2022 Certificate of Recognition as an Elsevier Reviewer. Results in Engineering |
| (vi) | 2022 Certificate of Recognition as an Elsevier Reviewer. Journal of Cleaner Production, Elsevier |

5. Research Fellowship and Grants with Dates:

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|-------|------|--|
| (i) | 2007 | Special Doctoral Staff Fellowship, Osun State University, Osogbo |
| (ii) | 2015 | TETFund Institutional Research Grant: Investigation of the Thermo-Electric Potential of Cocoa Pod Husk/KolanutPod Husk Blends as Biofuel Material for Electric Power Generation. Grant Number: UNIOSUN/TETFund/15/0010. Status: Co – Investigator. |
| (iii) | 2015 | TETFund Institutional Research Grant: Development of Interference Conflict Management Technique for GSM Quality of Service in Co-Located Base Transceiver Stations. Status. Co – Investigator. |

C. WORK EXPERIENCE OUTSIDE THE UNIVERSITY SYSTEM

1. Consulting Assistant on Air Quality - Professor Jacob A. Sonibare's laboratory, Chemical Engineering Department, O.A.U., Ile-Ife

2. Gray's International College, Ede, Osun State [2005 – 2007] Tutor: Mathematics and Introductory Technology.
3. National Youth Service Corps [2004 – 2005]: Tutor: Mathematics, Physics and Chemistry.
4. SIWES [April-Aug. 2002]: Industrial Training at Best Oils Limited, Off Orita Challenge, Ibadan Oyo State.
5. Industrial attachment [May - June, 2001]: Industrial Training with Industrial Project International, Abeokuta, Ogun State

D. WORK EXPERIENCE IN OTHER UNIVERSITY

- (i) 2025 **University of Ilorin, Kwara State, Nigeria**
External Examiner: Development of TiO₂/ZnO/microalgae Biochar Ternary Nanocomposite Adsorbent for COD and Nitrate Reduction from Fish Pond Effluent. Master of Engineering Research Thesis examined at the Department of Chemical Engineering, Faculty of Engineering and Technology, University of Ilorin, Ilorin, Kwara State, Nigeria -- By OLATUNJI Muhydeen Saminu (21/68/NT004).
- (ii) 2025 **University of Ilorin, Kwara State, Nigeria**
External Examiner: Sequestration of Selected Pollutants from Refinery Wastewater using Adsorbents Developed from Kolanut Pod. Master of Engineering Research Thesis examined at the Department of Chemical Engineering, Faculty of Engineering and Technology, University of Ilorin, Ilorin, Kwara State, Nigeria -- By KOLAWOLE Olusegun David (21/68/NT002).
- (iii) 2025 **University of Ilorin, Kwara State, Nigeria**
External Examiner: Comparative Study of Biodiesel Production from Waste Cooking Oil by Heterogeneous Biomass Modified Catalysts. Master of Engineering Research Thesis examined at the Department of Chemical Engineering, Faculty of Engineering and Technology, University of Ilorin, Ilorin, Kwara State, Nigeria -- By ABAYOMI Tunbosun Siji (21/68/NT001).
- (iv) 2025 **University of Ilorin, Kwara State, Nigeria**
External Examiner: Co-Pyrolysis of Oil Palm Empty Fruit Bunch and Plastics (LDPE and PET) for Bio-Oil Production. Master of Engineering Research Thesis examined at the Department of Chemical Engineering, Faculty of Engineering and Technology, University of Ilorin, Ilorin, Kwara State, Nigeria -- By NWEZE Victor Ikechukwu (21/68/NT003).
- (v) **Nov. 2022 –Oct. 2023: Landmark University, Omu-Aran, Kwara State- Senior Lecturer (Sabbatical)** – Department of Chemical Engineering, Landmark University, Omu-Aran, Kwara State
- (vi) 2021 **University of Ilorin, Ilorin, Kwara State, Nigeria**

External Examiner: Synthesis of γ –Alumina from Waste as a *Support for Alkaline Catalyst using Ageratum conyzoides for Biodiesel Production*. Master of Engineering Research Thesis at the Department of Chemical Engineering, Faculty of Engineering and Technology, University of Ilorin, Ilorin, Kwara State, Nigeria --By LADIPO, Omowunmi Christiana (18/68/NT004).

- (vii) 2021 **University of Ilorin, Ilorin, Kwara State, Nigeria**
External Examiner: *Production of Hybrid Biochar by Retort-Heating of Elephant Grass (Pennisetum purpureum) and LPDE Wastes and Usages as Chemical Lubricants*. Master of Engineering Research Thesis at the Department of Chemical Engineering, Faculty of Engineering and Technology, University of Ilorin, Ilorin, Kwara State, Nigeria – By POPOOLA, Ayobami Olubukola (18/68/NT008).
- (viii) 2021 **University of Ilorin, Ilorin, Kwara State, Nigeria**
External Examiner: *Nano-Synthesis of Solid Acid Catalyst from Waste Iron Fillings and Ageratum conyzoides for Biodiesel Production for Biodiesel Production*. Master of Engineering Research Thesis at the Department of Chemical Engineering, Faculty of Engineering and Technology, University of Ilorin, Ilorin, Kwara State, Nigeria – By TIJANI Abdulfatah Idowu (18/68/NT011).
- (ix) 2021 **University of Ilorin, Ilorin, Kwara State, Nigeria**
External Examiner: *Characterization and Risk Assessments of Pollutants Emitted from Traditional Incense Burning in Sub-Saharan Africa*. Master of Engineering Research Thesis at the Department of Chemical Engineering, Faculty of Engineering and Technology, University of Ilorin, Ilorin, Kwara State, Nigeria – By YUSUF, Muhammad-Najeeb Oluwafemi (18/68/NT011).

E. WORK EXPERIENCE IN OSUN STATE UNIVERSITY

- (i) Associate Professor 2022 – till date
- (ii) Senior Lecturer: 2019 -2022
- (iii) Lecturer I: 2016-2019
- (iv) Lecturer II: 2014-2016
- (v) Assistant Lecturer: 2011-2014
- (vi) Graduate Assistant: 2009-2011

F. CO-CURRICULAR PROFESSIONAL EXPERIENCE:

- (i) Participation in professional and technical sessions of the Council for the Regulation of Engineering in Nigeria (COREN)
- (ii) Air Quality Consultant to Consadem Associate, Ibadan on Hawal Dam Water Transfer Development, Borno State, Nigeria - Sonibare, J.A. and Okedere, O.B
- (iii) Air Quality Consultant, Procter and Gamble Nigeria Limited, Ibadan – Sonibare, J.A. and Okedere, O.B

- (iv) Local Organising Committee Member and Editor, Uniosun Faculty of Engineering Conference, 2019
- (v) Local Organising Committee Member, Uniosun Faculty of Engineering Conference, 2021
- (vi) Editorial Board Member and Managing Editor, Uniosun Journal of Engineering and Environmental Sciences
- (vii) Editorial Board Member, Olusegun Agagu University of Science and Technology (OAUSTECH) Journal of Engineering and Intelligent Technology
- (viii) Editorial Board Member, Afe Babalola University Ado-Ekiti (ABUAD) Journal of Engineering and Applied Sciences

G. MEMBERSHIP OF PROFESSIONAL BODIES:

- (i) Registered Engineer, COREN
- (ii) Registered Member, Nigerian Society of Engineers

H. SERVICES

1. University:

(ai) Departmental Level: Civil Engineering

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|--|-----------|
| (i) Examination Officer | 2011-2015 |
| (ii) Postgraduate Coordinator | 2015-2018 |
| (iii) Member, Academic Board | 2009-2021 |
| (iv) Secretary, COREN Accreditation Committee | 2017 |
| (v) Chairman, Accreditation Committee | 2017 |
| (vi) Students' Academic Advisory Services | 2009-2018 |
| (vii) Staff Adviser, Civil Engineering Students' Association | 2016-2017 |
| (viii) Chairman, Finance Committee | 2017-2018 |
| (ix) Coordinator, Department of Civil Engineering | 2018-2019 |
| (x) Chairman, Review Panel | 2017/2018 |

(aii) Departmental Level: Chemical Engineering

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|--|-----------------------|
| (i) Ag. Head, Department of Chemical Engineering | April 2024- till date |
| (ii) Coordinator, Department of Chemical Engineering | Jan- Jul. 2021 |
| (iii) Students' Adviser | 2020 till date |

(b) Faculty Level

- | | |
|---|-----------------------|
| (i) Member, Academic Board | 2014 till date |
| (ii) Examination Officer | 2016 -2018 |
| (iii) Member, Malpractice Committee | 2016 till date |
| (iv) Chemical Engineering Proposal Development | 2017 |
| (vii) Ag. Dean, Faculty of Engineering | Dec. 2018 – Apr. 2019 |
| (vi) Sub- Dean, Postgraduate College | 2018-2019 |
| (vii) Faculty Representative, Lecture Notes Committee: | 2019 |
| (viii) Secretary, Faculty, Journal Verification Committee | 2019- 2021 |
| (ix) Editor: Int'l Conf. on Engr'g &Env., Osun State University | 2019 |

- (x) Managing Editor, Uniosun Journal of Engr'g & Env. Sc. 2020 till date
- (xi) Faculty Rep., Quality Assurance 2020-2022

(c) College Level

- (i) Member, College Academic Board 2014 till date
- (ii) Member, College Examination Committee 2016 -2018
- (iii) Member, College Journal verification Committee 2020 – 2021

(d) University Level

- (i) Secretary, LOC, African Roundtable Dialogue on Climate Change 2016
- (ii) Sub-Dean, Postgraduate College 2018 - 2019
- (iii) Coordinator, Department of Civil Engineering 2018 - 2019
- (iv) Member, University Senate 2018 – 2019, 2024 till date
- (v) Chemical Engineering Departmental Coordinator Jan –July, 2021
- (vi) Ag. Head, Department of Chemical Engineering April 2024 till date

(2) Community:

- (i) Bible Study Coordinator, GOFAMINT, PPS Assembly, Osogbo 2016 till date
- (ii) Ass. Sunday School Superintendent, GOFAMINT, PPS, Osogbo 2016 -2023
- (iii) Secretary, Board of Ministers GOFAMINT, PPS Assembly, Osogbo
2017 - date
- (iv) Member, Agunyanmasesu, Owode-Ede, Landlord Association 2017 till date
- (v) Youth Pastor, GOFAMINT PPS Assembly 2020 till date

(3) National

- (i) National Youth Service Corps (NYSC) 2004-2005
- (ii) Proctor, Unified Tertiary Matriculation Examination 2018
- (iii) Lead Proctor, Unified Tertiary Matriculation Examination 2020
- (iv) Lead Proctor, Unified Tertiary Matriculation Examination 2021
- (v) Proctor, Unified Tertiary Matriculation Examination 2023
- (vii) Lead Proctor, Unified Tertiary Matriculation Examination 2025
- (viii) Member, Editorial Board, Uniosun Journal of Engineering and Environmental Sciences 2020-till date
- (ix) Editorial Board Member, Olusegun Agagu University of Science and Technology (OAUSTECH) Journal of Engineering and Intelligent Technology 2025
- (x) Editorial Board Member, Afe Babalola University Ado-Ekiti (ABUAD) Journal of Engineering and Applied Sciences 2025

(4) International:

- (i) Reviewer: Cogent Environmental Sciences, Taylor and Francis, UK
- (ii) Reviewer: Scientific Reports, Springer
- (iii) Reviewer: Environmental Quality Management, Wiley, USA
- (iv) Reviewer: Heliyon, Elsevier
- (v) Reviewer: Results in Engineering, Elsevier- With Certificate of Recognition
- (vi) Reviewer: Journal of Cleaner Production, Elsevier-With Certificate of Recognition

- (vii) Reviewer: Environmental Monitoring and Assessment, Springer
- (viii) Reviewer: Environmental Science Europe, Springer
- (ix) Reviewer: Discover Environment, Springer
- (x) Reviewer: Management of Environmental Quality, Emerald Group, UK
- (xi) Reviewer: Discover Atmosphere, Springer
- (xii) Reviewer: Journal of Energy Safety Technology, Universiti Teknologi, Malaysia
- (xiii) Reviewer: Aerobiologia, Springer
- (xiv) Reviewer: Discover Energy, Springer
- (xv) Reviewer: Journal of Environmental Chemical Engineering, Elsevier

I. COURSES TAUGHT DURING THE CURRENT ACADEMIC SESSION

Harmattan Semester

CVE 519: Environmental Pollution	3
CVE 513: Industrial Law and Management	2
CHE 501: Student Project	3
CHE 591: Chemical Engineering Lab III	2
CHE 491: Chemical Engineering Lab II	2
CHE 401: Transport Phenomena II	4
CHE 301: Transport Phenomenon I	4

Rain Semester

CHM 712: Unit Operations	3
CHE 510: Loss Prevention in Process Industry	3
CHE 502: Student Project	3
CHE 507: Process Economics	3
CHE 392: Chemical Engineering Lab I	2
CHE300: SWEP II	2
CHE202: Industrial Process Calculation	3
CHE 200: SWEP I	2

J. GRADUATE STUDIES SUPERVISION:

1. Doctor of Philosophy:

- (i) Seriki, Omotayo Jubril [TP18/19/R/0114] Development of Air Emission Source Profiles and Emission Factors for Electric Power Generators in Ogun State, Nigeria. A Doctor of Philosophy Thesis, Department of Chemical Engineering, Faculty of Technology, Obafemi Awolowo University, Ile-Ife, Nigeria [**Completed on October 31, 2023**]
- (ii) Adelowo, Tofunmi Caleb [ENP/19/20/H/0014]: Stabilization and Solidification Characteristics of Bamboo Leaf Ash Treated Lead Contaminated Lateritic Soil. A Doctor of Philosophy Thesis, Department of Civil Engineering, Osun State University, Osogbo [**On-going**]
- (iii) Alao, Oluseyi Mathew [2021/37149]: Experimental and Intelligent Prediction of Mechanical and Load Deflection

Characteristics of Rattan Cane Reinforced Concrete Beam. A Doctor of Philosophy Thesis, Department of Civil Engineering, Osun State University, Osogbo **[On-going]**

- (iv) Adeosun, Oyedele Olukayode [2021/37356] Investigation of the Effectiveness of Electrochemical Treatment in the Degradation of Polycyclic Aromatic Hydrocarbons in Groundwater. A Doctor of Philosophy Thesis, Department of Civil Engineering, Osun State University, Osogbo **[On-going]**
- (v) Adeniran, Adegbola David [2022/44197] Development of an Improved Metal Charcoal kiln for Heat Loss and Emission Minimization. A Doctor of Philosophy Thesis, Department of Mechanical Engineering, Osun State University, Osogbo **[On-going]**
- (vi) Akinloye, Akinyele [2022/43689] Investigation on the co-pyrolysis of high density polyethylene and some selected agro-residues. A Doctor of Philosophy Thesis, Department of Mechanical Engineering, Osun State University, Osogbo **[On-going]**
- (vii) Azeez, Nurudeen [MEE/2016/0026] Development of an Agro Waste- Based Adsorbent for Control of Air Emissions in Diesel Engines. A Doctor of Philosophy Thesis, Department of Mechanical Engineering, Osun State University, Osogbo **[On-going]**

2. Master by Research:

- (i) Adeyinka, Quadri Alade [MEE/2013/0001] A Comparative Study on the Emission Reduction Performance of Selected Hardwood and Softwood-Based Adsorbents in Diesel Engines. M. Eng. Thesis, Department of Mechanical Engineering, Osun State University, Osogbo **[Completed in July 2025]**
- (ii) Osisanya, Esther Modupe [2020/32935]: Investigation of the Energy Consumption and Emission Characteristics of Selected Co-located and Standalone Base Transceiver Stations in Osun State, Nigeria. M. Eng. Thesis, Department of Electrical and Electronic Engineering, Osun State University, Osogbo **[Completed on February 7, 2025]**
- (iii) Akinloye, Akinyele [2022/43689]: Development and Optimization of Biomass-Fecae-Based Solid Fuel for Heating Applications. M. Eng. Thesis, Department of Mechanical Engineering, Osun State University, Osogbo **[Completed in 2023/2024 Academic Session]**
- (iv) Asamu, Waliyu Temidayo [TP18/19/H/0157]: Application of Selected Receptor –Oriented Models for Air Pollution Control in Lagos Mega City. M.Sc. Thesis, Department of Chemical Engineering, Obafemi Awolowo University, Ile-Ife, Nigeria **[Completed on April 8, 2024]**

- (v) Lawal, Olaide Monsurudeen [TP19/20/H1714]: Investigation of Particulate Fractions in Air Emissions from Liquefaction of some Nigerian Coals. M.Sc. Thesis, Department of Chemical Engineering, Obafemi Awolowo University, Ile-Ife, Nigeria **[Completed on December 12, 2023]**
- (vi) Ogunlaja, Olusola Michael [21PGBB000207]: Modelling of Air Emissions from Paint Application in Selected Artisan Automotive Painting Booths, M. Sc. Thesis, Department of Chemical Engineering, Landmark University, Omu-Aran, Nigeria **[Completed on September 28, 2023]**
- (vii) Adewale, Saheed Adekunle [ENP/19/20/H/0026]: Investigation of Ambient Polycyclic Aromatic Hydrocarbons and Soil Heavy Metals around a Municipal Dumpsite. M.Eng. Thesis, Department of Civil Engineering, Osun State University, Osogbo [Completed on July 26, 2022]
- (viii) Ajayi, Samuel Ayodeji [ENP/19/20H/0047]: Development of a Hybrid Evolutionary Algorithm for Solving Economic Environmental Dispatch Problem. M. Eng. Thesis, Department of Electrical Engineering, Osun State University, Osogbo **[Completed on May 19, 2022].**
- (ix) Onarinde, Opeyemi [ENP/19/20/H/0046]: A Machine Learning Approach to Predictive Maintenance of Steam Power Plant Turbine Condenser. M. Eng. Thesis, Department of Electrical Engineering, Osun State University, Osogbo **[Completed on December 29, 2021].**

3. Master by Long Essay: Nil

K. PUBLICATIONS

- (i) Books (authored/co-authored): Nil
 - (ii) Books (edited/co-edited): Nil
 - (iii) Monographs: Nil
 - (iv) **Chapter in a Book:**
- [1] **Okedere, O.B.**, Lawal, M.O., Lamidi, W.A., Oyewole, K.A., Adeboye, B. S. and Oladepo, O. (2025) Net zero emission of agricultural power sector through land-based renewable energy. In: Kumar, S. and Meena, R.S. (eds) Agriculture towards net zero emissions. Chapter 11, p. 205-238. <https://doi.org/10.1016/B978-0-443-13985-7.00012-9> **[Published by Elsevier] [Offshore]**
- [2] **Okedere, O.B.**, Oyewole, K.A. and Rabiou, K.O. (2023) Advances in carbon storage techniques for climate change mitigations. In: Leal Filho, W., Sima, M., Lang Salvia, A., Kovalena, M., Malonas, E. (eds) University initiatives on climate change education and research. Springer, Charm. pp.

- 1-21. https://doi.org/10.1007/978-3-031-25960-9_26-1 [Publisher: Springer, UK] [Offshore].
- [3] Elehinafe, F.B., Olomukoro, O.G., Ayeni, O.A. and **Okedere, O.B.** (2022) A Short Review on Land/Soil Pollution: The Pollutants and the Treatment Techniques. In: Ayeni, A.O., Oladokun, O., Orodu, O.D. (eds) Advanced Manufacturing in Biological, Petroleum, and Nanotechnology Processing. Green Energy and Technology. Springer, Cham. pp 267-275 https://doi.org/10.1007/978-3-030-95820-6_23 [Publisher: Springer, UK] [Offshore].
- (v) **Articles in Learned Journals:**
4. **Okedere, O.B.**, Yusuff, R.O., Bewaji, A.K and Awosika, B.S (2025) Investigation of onsite total suspended particulates at Egbedi dumpsite, Osun State, Nigeria. OAUSTECH Journal of Engineering and Intelligent Technology, 1(1): 76-80. <https://doi.org/10.36108/ojeit/5202.10.0190> [Publisher: School of Engineering and Engineering Technology, Olusegun Agagu University of Science and Technology, Okitipupa, Ondo State, Nigeria]
- [5] **Okedere, O.B.**, Bewaji, A.K., Odediran, E.T., Ibiyemi, P.O., Awosika, B.S (2024). Plastic waste management in Nigeria: Pollution Impacts and Energy Recovery Potential. Adeleke University of Engineering and Technology, 7(2): 250-264. <https://aujet.adelekeuniversity.edu.ng/index.php/aujet/article/view/475> [Publisher: Faculty of Engineering, Adeleke University, Nigeria] Onshore
- [6] Elehinafe, F.B., Adisa, H. A., Adesina, A., **Okedere, O.B.** and Unen, U.E. (2024) Economic potential of pyro bio-oil production from sawdust generated in south west, Nigeria – A simulation-based approach. Case Studies in Chemical and Environmental Engineering. 9 (2024) 100590 <https://doi.org/10.1016/j.cscee.2023.100590> [Publisher: Elsevier, Netherland] [Offshore].
- [7] Adesina, O.A., Ezengwa, I., Abdulkareem, K.A., Adesanmi, A.J. and **Okedere O.B.** (2023) Soil concentrations of Polychlorinated Biphenyl in a typical Nigerian university environment and its risk assessment. Case Studies in Chemical and Environmental Engineering 7 (2023) 100343. <https://doi.org/10.1016/j.cscee.2023.100343> [Publisher: Elsevier, Netherland] [Offshore].
- [8] Oyelami, S., **Okedere, O.B.**, Oyewole, K.A., Rabi, K.O., Alamu, O.J., Olukayode, O. and Adedeji, W.O. (2023) Ambient Air Emission Profiles of Polycyclic Aromatic Hydrocarbons around a Typical University Power House in Nigeria. Tanzania Journal of Engineering and Technology, 42(3): 25-33 <https://doi.org/10.52339/tjet.v42i3.835> [Publisher: College of Engineering and Technology, University of Dar es Salaam]

- [9] **Okedere, O.B.**, Oyelami, S., Oyewole, K.A., Rabi, K.O., Lasisi, H.O. Atanda, N and Omojola, S (2022) A comparative investigation of the impact of two different charcoal stove configurations on polycyclic aromatic hydrocarbons and particulate matter emissions. *Journal of Energy Safety Technology*, 5(1):53-61 <https://doi.org/10.11113/jest.v5n1.112> [Publisher: **Universiti Teknologi Malaysia**] [Offshore].
- [10] **Okedere, O.B.**, Olawuyi, O.A, Elehinafe, F.B. and Nwizu, C.F. (2022) Impacts of heavy duty truck emissions on the vertical distributions of soil polycyclic aromatic hydrocarbons at a big haulage vehicle park. *Results in Engineering*, 14(2022) 100392. <https://doi.org/10.1016/j.rineng.2022.100392> [Publisher: **Elsevier, Netherland**] [Offshore].
- [11] Elehinafe, F.B., **Okedere, O.B.**, Oladimeji T.E and Anabui, S.O. (2022) Investigation of some gaseous and trace metal emissions with their emission factors from various brands of mosquito coils used in Nigeria. *Environmental Health Insights*, 16: <https://doi.org/10.1177/11786302221091741> [Publisher: **SAGE, USA**] [Offshore].
- [12] Ajewole, T.O., Aworinde, A.K. **Okedere, O.B.**, Somefun, T.E. (2022) Agro-residue for clean electricity: in-lab trial of power generation from blended cocoa-kolanut wastes. *Heliyon* 8(3): <https://doi.org/10.1016/j.heliyon.2022.e09091> [Publisher: **Elsevier, Netherland**] [Offshore].
- [13] Elehinafe, F.B. **Okedere, O.B.**, Adesanmi, A.J. and Jimoh, E.M (2022) Assessment of indoor levels of carbon monoxide emission from smoldering mosquito coils used in Nigeria. *Environmental Health Insights*, 16: <https://doi.org/10.1177/11786302221091031> [Publisher: **SAGE, USA**] [Offshore].
- [14] **Okedere, O.B.**, Adesanmi, A.J., Sonibare, J.A., Adesina, O.A., Adeniyi, G.O. (2021) Total suspended particulates from crude oil spill. *Journal of Engineering Studies and Research*, 27(4): 53-59. <https://jesr.ub.ro/journal/article/view/299> <https://doi.org/10.29081/jesr.v27i4> [Publisher: **Faculty of Engineering, University of Bacau, Romania**] [Offshore].
- [15] **Okedere, O.B.** and Oyelami, S (2021) Emission inventory of greenhouse gases and sustainable energy for mobile telecommunication facilities in Nigeria. *Environmental Challenges*, 4:100203. <https://doi.org/10.1016/j.envc.2021.100203> [Publisher: **Elsevier, Netherland**] [Offshore].
- [16] Adesanmi, A.J., **Okedere, O.B.**, Sonibare, J.A., Elehinafe, F.B. and Fakinle B.S. (2021) Atmospheric particulate fractions from Nigerian

crude oil spill. *Environmental Challenges*, 5:100334. <https://doi.org/10.1016/j.envc.2021.100334> [Publisher: Elsevier, Netherland] [Offshore].

- [17] Ajewole, T.O., Elehinafe, F.B., **Okedere, O.B.**, Somefun, T.E.(2021) Agro-residues for clean electricity: A thermo – property characterization of cocoa and kolanut waste blends. *Heliyon* 7(2021) e08055. <https://doi.org/10.1016/j.heliyon.2021.e08055> [Publisher: Elsevier, Netherland] [Offshore].
- [18] Ajala, E.O., Ajala, M.A., **Okedere, O.B.**, Aberuagba, F. and Awoyemi, V. (2021) Synthesis of solid catalyst from natural calcite for biodiesel production: case study of palm kernel oil in an optimization study using definitive screening design. *Biofuels* 12(6): 703-714 <https://doi.org/10.1080/17597269.2018.1532752> [Publisher: Taylor and Francis, UK] [Offshore].
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- [38] **Okedere O. B.**, Rabiou K.O and Elehinafe F. 2013) Effect of cone inclination on efficiency of cyclone. *Annals of Science, Engineering and Technology*, 3(1): 69-74. **[Publisher: College of SET, Osun State University, Osogbo, Nigeria] [Onshore Article Available Only in Print Version].**

(vi) Review Articles:

- [39] **Okedere, O.B.** and Elehinafe, F.B. (2022) Occurrence of polycyclic aromatic hydrocarbons in Nigeria's Environment. *Scientific African* 16: <https://doi.org/10.1016/j.sciaf.2022.e01144> **[Publisher: Elsevier, Netherland] [Offshore]**
- [40] **Okedere, O.B.**, Rabiou K.O., Oyewole, K.A. and Adeboye, B.S (2022) Evolution of industrial particulate cyclone design – a review. *UI Journal of Civil Engineering and Technology*, 4(1):1-8. www.uijcet.com **[Publisher: Department of Civil Engineering, University of Ibadan, Nigeria] [Onshore].**
- [41] **Okedere O.B.**, Elehinafe F.B., Oyelami S, Ayeni A.O. (2021). Drivers of anthropogenic air emissions in Nigeria- A Review. *Heliyon* 7: <https://doi.org/10.1016/j.heliyon.2021.e06398> **[Publisher: Elsevier, Netherland] [Offshore].**

(vii) Refereed Conference Proceedings:

- [42] **Okedere, O.B.**, Lasisi, H.O. and Adewale S.A. (2021) Potentials for bio-oil production from sawdust in Southwest Nigeria. A Proceeding of the 2nd International Conference on Engineering and Environmental Sciences (ICEES), Faculty of Engineering and Environmental Sciences, Osun State University, Osogbo, 23rd - 25th November, 2021, pp.68-74. **[Publisher: Faculties of Engineering and Environmental Sciences, Osun State University, Osogbo, Nigeria] [Onshore].** <https://ocs.uniosun.edu.ng/files/conferences/1/proceedings/ICEES2021/BookofProceedings-2ndIntlConference.pdf>
- [43] **Okedere, O.B.**, Fakinle, B.S., Odunlami, O. O. and Elehinafe, F.B. (2017) Dispersion modelling of particulate emission from off-grid diesel engine electric power generators. A proceeding of the Faculty of Technology Conference, Obafemi Awolowo University, Ile-Ife, 24-27th September, 2017, pp.98-103 **[Publisher: Faculty of Technology, Obafemi Awolowo University, Ile-Ife, Nigeria] [Onshore Conference Proceedings Available only in print version]**

- (viii) Book reviews: Nil
- (ix) Technical Reports: Nil
- (x) Patents and inventions: Nil
- (xi) On-line journal articles: Nil

L. CURRENT RESEARCH ACTIVITIES

- (1) Funded Research:** Nil
- (2) Non-Funded/ Self Sponsored Research:**
 - (i) Development of predictive model for concentration of ground level ozone for some Nigerian cities.
 - (ii) Development of an Improved Metal Charcoal kiln for Heat Loss and Emission Minimization.
 - (iii) Investigation on the co-pyrolysis of high density polyethylene and some selected agro- residues
 - (iv) Development of agro-residue- based adsorbent for control of particulate emission in diesel engines
 - (v) Comparative investigation of the performance of adsorbents produced from selected hard and softwood in diesel exhaust emission control
 - (vi) Investigation of particulate emission from liquefaction of coals of Nigerian origin
 - (vi) Stabilization and Solidification Characteristics of Bamboo Leaf Ash Treated Lead Contaminated Lateritic Soil.
 - (vii) Development of biomass based solid fuel for heating application

M. CONFERENCES ATTENDED

- (1) Capacity building workshop, Osun State University, Osogbo, February 26, 2025
- (2) 3rd International Conference on Engineering and Environmental Sciences (ICEES), Faculty of Engineering and Environmental Sciences, Osun State University, Osogbo, August, 2024.
- (3) One day capacity building workshop, Osun State University, Osogbo, November 20, 2023
- (4) 6th Landmark University public lecture, Landmark University Omu-Aran, August 29, 2023
- (5) 2nd International Conference on Engineering and Environmental Sciences (ICEES), Faculty of Engineering and Environmental Sciences, Osun State University, Osogbo, 23rd-25th November, 2021.
- (6) ICDL Digital Skills Standard Training, Osun State University, 11-15 October, 2021

- (7) 2nd International Conference on Sustainable Infrastructural Development (ICSID), Covenant University, Ota, Ogun State, 27-28th July, 2020.
- (8) The first International Conference on Recent Trends in Applied Research. Covenant University, Ota Ogun State, 18-20th September, 2020
- (9) 1st International Conference on Engineering and Environmental Sciences (ICEES), Faculty of Engineering and Environmental Sciences, Osun State University, Osogbo, 5-7th November, 2019.
- (10) 2nd International Conference on Engineering for Sustainable World. Covenant University, Ota, Ogun State, 9-13th July, 2018.
- (11) OAUTekConf 2017, Conference Center, Obafemi Awolowo University, Ile-Ife, Nigeria, 24-27th September, 2017.
- (12) African Roundtable Dialogue on Climate Change, Olagunsoye Oyinlola Auditorium, Osun State University, Osogbo, July 21, 2016.
- (13) Advanced digital Appreciation Programme for Tertiary Institutions (ADAPTI), CISCO LAB, Osun State University, Osogbo, 9-13th May, 2016.
- (14) 25th COREN Engineering Assembly, International Event Centre,(The Dome), Akure, Ondo State, 8-10th August, 2016.
- (15) 3rd International Conference on Engineering and Technology Research, Ladoke Akintola University of Technology, Ogbomosho, Oyo State, 5-7th August, 2014.
- (16) 23rd COREN Engineering Assembly, International Conference Centre, Abuja, 18-20th August 2014
- (17) Applied Science Research Conference, Kwamme Nkruma University of Science and Technology, Kumasi, Ghana, 8-10th August, 2013.
- (18) 2nd International Conference on Engineering and Technology Research, Ladoke Akintola University of Technology, Ogbomosho, Nigeria, 26th - 28th March, 2013.
- (19) 21st COREN Engineering Assembly, International Conference Centre, Abuja, 4-5th September, 2012
- (15) Training the Trainers Workshop, National Information Technology Development Agency, Abuja, Osun State University, 26th May - 3rd June, 2011

- (16) College of Science, Engineering and Technology Conference,
Olagunsoye Auditorium, Osun State University, Osogbo, Nigeria,
15th – 18th March, 2011

N. **EXTRA-CURRICULAR ACTIVITIES:** Soccer

O. **ANY OTHER RELEVANT INFORMATION:**

- (i) Orcid ID: <https://orcid.org/0000-0003-0444-1201>
- (ii) Scopus ID: [Scopus Author ID: 55849984100](#)

P. **SUMMARY OF CONTRIBUTION TO KNOWLEDGE:**

My research interest is in environment pollution/environmental engineering with specific focus on air pollution monitoring and modeling, improvement of air pollution control devices and bio-energy resource development for air pollution mitigation. I have through research discovered that air pollution is a globally recognized challenge. Anthropogenic activities including natural resources exploitation, energy production and utilization, industrial manufacturing and product utilization, and waste generation and management among others are the vital drivers of air pollution world-wide. The chemical/process industry is believed to be the principal driver of anthropogenic air pollutants. There has been global concerns on the increasing levels of anthropogenic air pollutants because of the associated negative impacts on human, animal, structural and environmental health in general. Studies have revealed that air pollution causes reduction of indoor and outdoor air quality thus aggravating public health disease concerns. Air pollution causes visibility reduction with adverse effects on the aviation industry, reduction in water quality, imbalance of eco-system bio-diversity, lowering of soil fertility and consequently drop in crop yield. In general, air pollution adversely affects global climate with dire consequences on the attainment of sustainable development goals (Nos 1, 2, 3, 6, 7, 9, 13 and 15).

Due to increasing public health concerns, climate change issues and sustainable development goals targets; investigations into nature, sources and transport of air pollutants as well as their mitigation strategies have continued to be subjects of active research globally. In addition to air pollution monitoring, modeling and development of control devices, current research trends in the mitigation and control of air pollution also target the development of renewable energy sources which are friendlier to the environment. In this direction, bio-energy resources are beginning to emerge as strong forces. In order to incorporate them into the energy mix successfully, there is the need to conduct experiments on their emission characteristics and develop robust and reliable emission inventories.

I have therefore, focused not only on air pollution monitoring, modeling and control devices but also on experimentations involving locally available bio-energy resources with the aim of promoting sustainable development through reduction of air pollution inherent in fossil fuels exploitation and utilization. In my attempt at understanding and addressing issues relating to air pollution, I have employed real life field monitoring, laboratory experiments, emission inventory and dispersion modeling to study the nature, levels and transport of several air pollutants from different anthropogenic pollution sources. My attempts at mitigating and controlling air pollution have focused on the improvement of some properties of air pollution control devices. It has also led the development of some locally available bio-energy resources with the sole aim of projecting energy sources with reduced air pollution tendencies since energy generation and utilization have been identified as the major drivers of anthropogenic air pollution. Continuous air pollution monitoring, air quality impact assessment and emission inventory development have been advocated in my reports as ways of managing the impacts of air pollution. I have also advocated the development and utilization of bio-energy resources for air pollution reduction.

As indicated in my research focus, my study has broadened my knowledge on the global challenges posed by air pollution and mitigating strategies. My contributions to the study of Chemical Engineering are reflected in my forty-three (43) publications which comprise three (3) Chapters in Book, thirty-five (35) Journal Articles, three (3) Review Articles and two (2) Refereed Conference Proceedings. Agriculture towards net zero emission through land-based renewable energy deployment is presented in the book chapter presented as paper [1]. Techniques of climate change mitigation through carbon capture, storage and utilization were dispassionately covered in the book chapter presented as paper [2]. Soil as a sink for atmospheric pollutants, the concentrations of some pollutants and the treatment techniques were reported in a book chapter and journal articles presented as papers [3,7 and 10]. In papers [39 and 41], in-depth reviews on the nature, sources, inventories and effects of key anthropogenic air pollutants were reported. In **eighteen (18)** of my publications [4, 8, 9,11, 13, 14, 16, 20, 21, 24, 28, 29, 31, 32, 33, 34, 35 and 36], experimental and field monitoring of levels and impacts of air pollutants from diverse anthropogenic sources including energy production and utilization, industrial manufacturing processes, industrial product utilization and waste disposal were reported.

In **eight (9)** of my publications [5, 15, 21,22, 25, 26, 30, 31 and 43], at least one of emission inventory or dispersion modeling tool was used to model the source emission characteristics, transport and receptor impacts or outdoor-indoor exchange of different air pollutants and sources, respectively. The targeted pollutants were criteria air pollutants which have serious consequences on public health. The contributions of key anthropogenic sources in Nigeria to atmospheric carbon dioxide, a global warming and climate change agent were also determined via emission inventory modeling.

In three (3) of my publications [37, 38 and 40], attempt was made at understanding and improving the performance of the tangential entry reverse flow cyclone separator – an equipment frequently used for the control of particulate matter in the chemical process industry. The studies investigated the effects of a design parameter (variation in conic section inclination) on the performance of the pollution control equipment and provided in-depth information on the operating principles of cyclone separator.

As part of the efforts geared towards reduction and control of air pollutants, the development and testing of some locally available bio-energy resources which are renewable and friendlier to the environment were reported in **eleven (11)** of my publications [1, 5, 6, 12, 17, 18, 19, 23, 27, 32, and 42]. Emission inventory and simulation-based approaches were adopted in papers [5] and [6] to explore the economic and energy potentials of plastic and sawdust respectively. Bio-fuels from agro wastes (cocoa pods and kola pods) were characterized for their energy values in paper [17] and tested for clean electricity generation in paper [12]. Paper [18] reported the development of locally available calcite catalyst which gave improved production of environmental friendly biodiesel. The optimized production of biodiesel from shea-butter was the focus in paper [23]. In paper [20], the performance and air pollution emission characteristics of bio-fuel produced from corncob an agro- waste, when run on spark ignition engine were reported. Energy values were obtained for up to one hundred (100) woody biomass species found in southwestern Nigeria as reported in papers [19 and 27] while their assessments in terms of air pollution characteristics and impacts were reported in papers [32 and 33]. Theoretical bio-oil recoverable from sawdust available in southwestern Nigeria was reported in **paper [5 and 42]**.



Dr. Oyetunji Babatunde OKEDERE

October 10, 2025