



OMOTOLA OLUWAFUNMILAYO BABAJIDE (PhD)

EXECUTIVE ACADEMIC

PROFESSIONAL PROFILE

I am an innovative, ingenious, diligent and dedicated academic with technical skills and credible academic expertise in environmental sciences, science education and educational leadership.

My research majors on renewable and sustainable energy studies, specifically- biofuels and biodiesel systems.

My aim is to develop strategies and research solutions for sustainable development with focus on all round environmental sustainability, chemical sciences and educational development.

CONTACT

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EDUCATION

PhD Environmental Chemistry	2012
University of the Western Cape, (UWC), South Africa.	2008
MSc Industrial Chemistry	2001
University of Ibadan, Nigeria	1999
B.Sc. Ed (Hons) Chemistry	1997
Obafemi Awolowo University, Nigeria	1993

PROFESSIONAL EXPERIENCE

Grant and fund proposal writing expertise

Research collaboration with industry

Post Graduate Research supervision (PhDs and MSc's)

Editorial Member, International Journal of Chemical Material and Environmental Research.

Editor/Reviewer of high impact peer review of Elsevier Journals

External Examination of Postgraduate degrees

Supervisor, Teaching Practice Program – Adeyemi College of Education

Facilitator, Science Foundation Academic Literacy Program - UWC, South Africa

Coordinator, MTN sponsored Nano Science Workshop -South Africa

Former Facilitator, Children Science Clinic. Nigeria

Tutor/Mentor, Undergraduate Chemistry and English for Science Modules- UWC, South Africa

Resource Person, Community Engagement Workshop on Equity and equality of Nanotechnology- **Georgia Tech University, Atlanta USA**

External Examiner - Master's Thesis, Cape Peninsula University of Technology, South Africa.

- Master's Thesis, University of Venda, South Africa
- Masters and PhD Theses, University of the Witwatersrand, Johannesburg. South Africa
- Master's Thesis, University of the Western Cape, Cape Town South Africa.

AFFILIATIONS

Member – **Royal Society of Chemistry (RSC)**

Member – **American Chemical Society (ACS)**

Member – **South African Chemical Institute (SACI)**

Member – **Chemical Society of Nigeria (CSN)**

EMPLOYMENT HISTORY

Since July 2016

Cape Peninsula University of Technology (CPUT)

Department Faculty of Engineering

Designation Lecturing and Research

Functional Area Renewable Energy, Environmental Engineering, Global and Environmental Studies, Physical Sciences, Research Methodology.

Group Mechanical Engineering

Function Lecturing of Advanced Diploma and Bachelor in -Tech. Students

Responsibilities:

- Provide students with an understanding of environmental issues at both local and global levels.
- Aim to increase knowledge and capacity of interested participants of current global environmental concerns.
- Develop and facilitate related research projects.
- Currently, fully supervising a PhD research project on the potential use and transesterification of Maggot oil into Biodiesel.
- Facilitate the acquisition of a basic understanding of the key environmental issues of the 21st century and are to be able to integrate this knowledge into their program of study.
- Educate on the global energy situation, history of energy sources, consumption and imbalances as well as elucidate on recent trends, resources and reserves, non-renewable and renewable sources, efficiency and conservation.

Jan, 2014 - Dec 2016

University of the Western Cape, South Africa

Department Chemistry

Designation Post -Doctoral Researcher

Functional Area Research and Development

Group Environmental and Nano Sciences Research (ENS)

Function Sustainable and renewable energy systems

Responsibilities:

- Provide bench scale results in biodiesel catalysis for up scaling processes for probable recommendation to industry.
- Collaborated with ENS industrial partners to formulate new and different technical approaches resulting in improved process systems.
- Develop and facilitate research projects for upcoming Demonstrate feasible and organized research methodologies to pursue anticipated objectives
- Establish visible and felt leadership to colleagues and post graduate students as required, for example reviewing of publications and manuscripts.
- Continued co- supervision of graduate research students.
- Performed as Senior Coach- Science Foundation Academic Literacy for foundation students especially from disadvantaged backgrounds in South Africa.
- Manage part operations in the Environmental and Nano Sciences research laboratory and ensured that instruments are maintained and operate smoothly.
- Provide technical training and coaching to new students and interns.
- Organization of luncheons for various meetings held with stakeholders, staff and student members of the research group from time to time.

RESEARCH INTERESTS

Fly ash waste beneficiation for biodiesel catalysis

Biodiesel synthesis from different feedstock

Environmental Remediation

Geo-polymer production from fly ash

Global and Environmental Studies

Environmental Engineering

HOBBIES AND INTERESTS

Climate Reality Project
Leader- Climate change advocate

Environmental Impact Assessment

Lead Consultant-
BriteConcept
Consulting & Services

Mentor in SAAWG- promoting female education & empowerment

Community Engagement for Scientists Project

Public speaking, consulting, training and coaching

EMPLOYMENT HISTORY

Started July 1, 2001

Adeyemi University of Education, Ondo, Nigeria

Department Integrated Science

Designation Chief Lecturer

Function Lecturing

Responsibilities:

- Lecturing at undergraduate level
- Facilitator of the Central Research Laboratory for the College while acting also as the secretary to the committee nominated by the Provost of the college.
- Assistant head of department -co-ordination and administration of the effective running of the department with regards to students, staff and examinations.
- Supervision and mentoring of final year students with respect to conducting research projects and write up of their mini thesis.
- Member- School of sciences board of studies: involves appointments & delegation of staff for various academic duties, disciplinary issues regarding students and decisions affecting school deliberations.
- Departmental secretary and staff adviser to students.
- Head of communiqué group-presentation of communiqués after national conferences organized by the school of sciences are concluded.
- Generating book chapters and publications for academic and professional development

ACADEMIC CONFERENCES ATTENDED (SELECTED)

The 33rd International Conference on Solid Waste Technology and Management, Annapolis, MD, U.S.A, March 11-14, 2018.

Paper Presented: New Zeolite Catalyst from Waste Coal Ash for Biodiesel Synthesis.

Toyin Falola Annual International Conference on Africa and the African Diaspora (TOFAC). Ondo Nigeria, July 3- July 5, 2017.

Paper Presented: Babajide J.O and Babajide O.O: The Role of Science Centres in Africa's Transformation and Implication for Developing Countries.

The 6th World Sustainability Forum, Cape Town South Africa. January 27-29, 2017. **Paper Presented:** Babajide O.O, Nyale S.M, Musyoka NM and Petrik Leslie. Coal fly ash Beneficiation – Vital for promoting Environmental Sustainability in Southern Africa.

14th International Conference on Environmental Science and Technology, Rhodes, Greece, 3-5, September 2015. **Paper presented:** Babajide O.O, Nyale S.M, Birch G.D, Böke N, and Petrik L.F., (2015) The Influence of NaOH and NaCl on the Characteristics of Fly Ash-Based Foamed Geo-polymer.

247th ACS National Meeting to hold in Dallas, Texas. USA, March, 2014. **Paper Presented:** Effective degradation of recalcitrant toxic contaminants via the photo catalytic activity of supported TiO₂ Nanocrystals.

Twenty-Eight International Conference on Solid Waste Technology & Management held at Widener University, Philadelphia, PA, U.S.A. March 10-13, 2013. **Paper presented:** Use of Fly Ash Based Zeolite Na-X as a catalyst in Biodiesel Production.

The 5th SA Innovation Summit: Leading Innovation-Africa's Competitive Edge held at Forum at the Campus Bryanston, Johannesburg, Gauteng, August 28, 2012. **Participant:** ENS/ESKOM Collaboration Research Exhibition.

The 2nd international symposium on Electrochemistry held at the University of the Western Cape, Bellville South Africa. July 19-20, 2012. **Paper presented:** Determination of the antioxidant potentials via electrochemical and spectro-photochemical methods of a selection of South African medicinal plants.

- Shabani J.M., Babajide O.O., Oyekola O.O. (2020) An Investigation into the Potential of Maggot Oil as a Feedstock for Biodiesel Production. In: Daramola M., Ayeni A. (eds) Valorization of Biomass to Value-Added Commodities. Green Energy and Technology. Springer, Cham. https://doi.org/10.1007/978-3-030-38032-8_14
- Juvet Shabani, **Omotola Babajide**, Oluwaseun Oyekola, Leslie Petrik (2019). Synthesis of hydroxy sodalite from coal fly ash for biodiesel production from waste-derived maggot oil. *Catalysts* 9(12), 1052. <https://doi.org/10.3390/catal9121052>
- Wilson Gitari, Tonderai Makoni, Vernon Somerset and **Omotola Babajide** (2018). Spatial distribution of DDT and its metabolites in soils from Indoor Residual Spraying in Tshilamusu village, Limpopo. *Journal of Environmental Science and Health, Part A*. <https://doi.org/10.20944/preprints201808.0328.v1>.
- ESM Mouele, OO Fatoba, **O Babajide**, KO Badmus, LF Petrik (2018). Review of the methods for determination of reactive oxygen species and suggestion for their application in advanced oxidation induced by dielectric barrier discharges. *Environmental Science and Pollution Research*, 1-18.
- JO Tijani, MES Mouele, OO Fatoba, **OO Babajide**, LF Petrik (2017). Degradation of bisphenol-A by dielectric barrier discharge system: influence of polyethylene glycol stabilized nano zero valent iron particles. *Advances in Natural Sciences: Nanoscience and Nanotechnology* 8 (3), 035013
- J. O.Tijani, T.C Totito, O.O.Fatoba, **O.O Babajide** and L. F. Petrik (2017). Synthesis, characterization and photocatalytic activity of Ag mettalic particles deposited carbon doped TiO₂ nano composites supported on stainless steel mesh. *Journal of Sol-Gel Science Technology*; DOI /10.1007/s10971-017-4385-0
- Jimoh. O.Tijani, **Babajide Omotola**, Ojo.O.Fatoba and Leslie. F. Petrik (2016). Pharmaceuticals, endocrine disruptors, personal care products, nanomaterials and perfluorinated pollutants: a review. *Environmental Chemistry Letters*14: 27-49; DOI: 10.1007/s10311-015-0537-z
- Roland Missugue, **Babajide Omotola**, Leslie Petrik. Nicholas M. Musyoka, Godfrey Madzivire (2016). Leaching and antimicrobial properties of silver nanoparticles loaded onto natural zeolite clinoptilolite by ion exchange and wet impregnation. *Journal of Environmental Science and Health, Part A. J Environ Sci Health A: Toxic/Hazardous Substances and Environmental Engineering*, 51(2):97-104; DOI/abs/10.1080/10934529.2015.1087731
- Sammy M Nyale, **Omotola O. Babajide**, Grant D. Birch, Nuran Boke, Leslie F. Petrik. (2015) Influence of NaOH and NaOCl on the characteristics of fly ash based foamed geopolymer. *Proceedings of the 14th International Conference on Environmental Science and Technology*. Pp 1452-1458; <http://toc.proceedings.com/28192webtoc.pdf>
- Omotola Babajide**, Leslie Petrik and Farouk Ameer (2015): Technologies for Biodiesel Production in Sub- Saharan African Countries. InTech book project- Biofuels. Edited by: Dr. Krzysztof Biernat; <http://dx.doi.org/10.5772/59859>
- Omotola Babajide**. (2013) Sustainability of biodiesel production via Value Added Applications of Glycerol. *Journal of Energy* 1-7; <http://dx.doi.org/10.1155/2013/178356>.
- Sammy M Nyale, **Omotola O. Babajide**, Grant D. Birch, Nuran Boke, Leslie F. Petrik. (2013) Synthesis and characterisation of coal fly ash based foamed geo-polymer. *Procedia Environmental Sciences*18, 722-730; DOI: 10.1016/j.proenv.2013.04.098
- Omotola Babajide**, Nicholas Musyoka, Leslie Petrik & Farouk Ameer (2012). Novel zeolite Na-X synthesized from fly ash as a heterogeneous catalyst in biodiesel production. *Catalysis Today* 190 (2012) 54-60; <http://dx.doi.org/10.1016/j.cattod.2012.04.044>

JOURNAL PUBLICATIONS (SELECTED)

Omotola Babajide, Leslie Petrik, Farouk Ameer & Bankole Amigun. (2010). Low-Cost Feedstock Conversion to Biodiesel via Ultrasound Technology. *Energies* 3, 1691-1703; doi:10.3390/en3101691

Omotola Babajide and Daramola, A. O. (2008): Bioactivity guided isolation of a novel anti-inflammatory and antibacterial flavonol and oxochromone from the plant *piliostigma reticulatum* (schum): <http://hdl.handle.net/1811/33156>

PUBLISHED BOOKS

AUTHORED BOOKS

Babajide, O.O (2018): *Global and Environmental Studies - The South African Narrative*. A comprehensive handbook. Scholars' Press an imprint of SIA Omni Scriptum Publishing, Brivibas gatve 197, LV-1039, Riga, Latvia, European Union Publishing House. ISBN 978-620-2-30311-8.

Babajide O.O (2018): *Introduction to Intermediate Basic Organic Chemistry*. Printwise Publishers, Lagos Nigeria.

Babajide O.O (2017): *Rudimentary General and Carbon Chemistry for Integrated Science Students*. Printwise Publishers, Lagos Nigeria.

CONTRIBUTION TO BOOKS

Babajide, O.O. (2002): *Integrated Science Methodology in Yinka Ogunlade and R.O Oloyede. (Eds) Approaches to Science Techniques*; Ondo, NIEPA Press, 43-62.

Babajide O.O. (2007): *Basic Preliminary Organic Chemistry for Tertiary Institutions- Student/ Tutor Interactive Text*. Stainless Prints Venture Publisher, Ondo Nigeria.

Babajide O.O. (2008): *Integrating Critical Thinking Skills to Teaching: A Modern approach to Classroom Learning. Creativity in Higher Education in Nigeria*; Akin Alao & Tunde Obisesan. Rex Charles and Connell Publications, Lagos, 20-26.

Babajide O.O (2013): *Nigeria Energy issues: Renewable Energy as a Means to an End: In Oloyede, R.O. and Akinbile, P.O. (Eds). Issues in Science and Science Education, 222-233. Ondo; Crofes Printing Press and Publishers-Ondo, Nigeria.*

Babajide, O.O, Petrik, L., and Ameer, F (2015): *Technologies for Biodiesel Production in Sub-Saharan African Countries. In-Tech book project- Biofuels*, Edited by Dr. Krzysztof Biernat. <http://dx.doi.org/10.5772/59859>

Babajide, O.O, Juvet Shabani, Oluwaseun Oyekola, Leslie Petrik (2019): *Synthesis of fly ash-based zeolites for the transesterification of maggot oil. Valorization of biomass to value-added commodities: current trends, challenges and future outlook*, edited by M.O Daramola & O.A Ayeni published by Springer Nature.
