

OLATUBOSUN ADE FASIPE

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RESEARCH EXPERIENCE

University of California, Berkeley

Miller Research Fellow / Postdoctoral Research Scholar

July 2023 – To date

- ◆ Developing hypothesis-driven numerical experiments around the changing risk of complex streamflow, bringing data and hydrologic process models together and leading papers describing those findings.
- ◆ Evaluate how changing climate, land use/cover, population, and infrastructure development scenarios will affect sustainable small hydropower (SSHP) systems in the coming decades.
- ◆ Develop a generic, flexible, and comprehensive MultiCriteria Spatial Decision Support System (MCSDSS) to help maximize the benefits of SSHP while minimizing their negative environmental impacts.
- ◆ Successful fulfillment of research objectives within grant timelines
- ◆ Publish scientific papers in top-tier peer-reviewed journals to support the research fellowship program.
- ◆ Regularly attend and present results at national and international meetings to publicize and promote the research.
- ◆ Participate in the Miller Institute outreach initiative to educate and inspire next generation of potential scientists.
- ◆ Mentor and assist graduate students on projects.

University of Benin, Nigeria

Ph.D. Student

January 2016 – September 2021

- ◆ Develop methodologies to estimate realizable Small Hydropower (SHP) resources in Nigeria's River Basins utilizing GIS and RS techniques and compute the proposed cost of the identified SHP.
- ◆ Examine the streamflow characteristics needed for quantitative description of the catchment geometry and its implications in the absence of hydrological data.
- ◆ Gaining expertise using broad range of techniques in the prediction of ungauged basins (PUB).
- ◆ Pioneered the evolvement of the first Clean Development Mechanism (CDM) template that has been applied by the Energy Commission of Nigeria (ECN) to aggregate mitigation and adaptation projects to support the approved revised Nigeria's Nationally Determined Contributions (NDC).
- ◆ Develop the first regionalization exponent to guide practicing hydrologists and engineers in Nigeria.

Energy Commission of Nigeria, Abuja

Assistant Chief Scientific Officer

May 2011 – July 2023

Sectional Head Energy Partnerships for Training and Capacity Building (EP-TCB)

January 2019 – July 2023

- ◆ Establish, coordinate, and manage national and international linkages, as well as exchange projects and programs, partnerships emanating from these links.
- ◆ Preparing departmental contributions to national energy outlooks, national energy balance, and integrated energy policy, plans, and publications.
- ◆ Desk Officer/ Project Implementation Team (PIT) member UNDP-GEF DE-RISKING RENEWABLE ENERGY NAMA for NIGERIA POWER SECTOR Project.
- ◆ Project Implementation Team Member (PIT) UNIDO Project on Improving Nigeria's Industrial Energy Performance and Resource through Programmatic Approaches and the Promotion of Innovation in Clean Technology Solutions (**NIG IEE/RECP Project**)
- ◆ Disseminate Commission's research programs, technologies, and innovations through Shows and Exhibitions.
- ◆ Taking charge of advanced working tools and materials of the Energy Transition and Linkages (ET&L) Unit.
- ◆ Project Implementation Team (PIT) member UNDP-GEF Sustainable Fuelwood Management Project.

EDUCATION

University of Benin, Benin City, Nigeria

M.Eng. & PhD Water Resources and Environmental Engineering

2012 – 2014 & 2016 - 2021

Federal University of Technology Akure, Nigeria

B. Eng. Civil Engineering

2002 – 2007

SPECIAL APPOINTMENTS / AWARDS / SCHOLARSHIPS

- ◆ Associated Partner Erasmus Mundus Joint Master's Programme on Water and Energy Nexus 2025
- ◆ The Rotary Foundation Global Grant Scholarship Advisor 2025
- ◆ Miller Research Fellowship 2023 - 2026
- ◆ AMI Hydropower Foundation Conference Scholarship 2013, 2017, 2018, 2020, 2022
- ◆ ITEC Training & Certification Scholarship 2018
- ◆ Israel-MASHAV – Training & Certification Scholarship 2016
- ◆ Best Participant CLEANTECH 2016 set Weitz Centre for Sustainable Development. 2016
- ◆ ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) 2012

RESEARCH-RELATED SKILLS

- ◆ Hydropower Resources Assessment
- ◆ Surface Hydrology
- ◆ Energy Policy & Energy Efficiency
- ◆ Spatial Decision Support System (SDSS)
- ◆ Hydrologic Modeling and Simulation
- ◆ GIS Analyst
- ◆ RETScreen & HOMER
- ◆ ANN & Machine Learning /Data Analytics

TEACHING EXPERIENCE

University of Benin, Nigeria

Teaching Assistant

January 2016 – December 2021

- ◆ Teaching CVE421: Hydraulics and Hydrology and CVE521: Civil Engineering Hydraulics
- ◆ Undergraduate Research Projects Supervision. ◆ Collation of student periodic evaluation report.

PROFESSIONAL MEMBERSHIP OF SOCIETIES

- ◆ American Geophysical Union
- ◆ World Society of Sustainable Energy Technologies
- ◆ Council for the Regulation of Engineering Profession in Nigeria (COREN).
- ◆ Nigerian Society of Engineers (NSE)
- ◆ Weitz Centre for Sustainable Development

PRESENTATIONS

- ◆ Graduate Student Guest Lecture Presentation for CIVENG 200B: Environmental Fluid Mechanics II, UC Berkeley CEE Department (04/22/2025).
- ◆ Miller Fellows Outreach Presentation at Middle College High School, Contra Costa College, and El Cerrito High School
- ◆ UC Berkeley Environmental Faculty Seminar Series: Assessment of Small Hydropower Potential in Nigeria River Basin. (Presented on 02/09/2024)
- ◆ Overview of Nigeria Green Bond and Prospects for Renewable Energy in Nigeria at Reiz Continental Hotel, Abuja. (Presented on 04/05/2017)

VOLUNTEERING

- ◆ Atlas Helper for Nigeria: World Atlas and Industry Guide (International Journal of Hydropower and Dams, Surrey, United Kingdom).

REVIEWER ACTIVITIES

- ◆ Journal of Water Resource and Protection (JWARP)
- ◆ International Journal of Renewable Energy and Environment (IJREE)
- ◆ International Journal of Energy Research.
- ◆ Asian Journal of Geographical Research (AJGR)

A. Publications with peer review process

Research Papers Under Peer Review Process:

- [1] **Fasipe, O., Variano, E.A.** (2025). Expert Elicitation Study for Sustainable Small Hydropower (SSHP) Planning Using MCDA Techniques. **Research Policy (Elsevier BV)**.
- [2] **Fasipe, O., Variano, E.A.** (2025). Expert Elicitation Decision Pathways for Sustainable Small Hydropower (SSHP) Criteria: A Data-Driven Approach. **Innovation and Green Development (Elsevier BV)**.

Book Chapter:

- [3] **Eniola, V., Adeyemi, K., Adamu, M., Fasipe, O., Aikhuele, J., Zarmai, M., & Uthman, M.** (2025). Daily Streamflow Forecasting Using an Enhanced LSTM Neural Network Model. https://doi.org/10.1007/978-3-031-69031-0_8

Journal Publications:

- [4] **Akomea-Ampeh, M., Atekwana, E. A., Steele, E. P., Cagle, A. E., Armstrong, A., Thackeray, S. J., Sadro, S., Ololade, O. O., Fasipe, O. A., & Hernandez, R. R.** (2025). Metal contaminant risk at active floating photovoltaic sites and future research roadmap. *Journal of Environmental Management*, 383, 125216. <https://doi.org/10.1016/j.jenvman.2025.125216>
- [5] **Fasipe, O.A., Izinyon, O.C., Ehiorobo, J.O.** (2021). Hydropower potential assessment using spatial technology and hydrological modelling in Nigeria river basin. *Renewable Energy*, 178(11), 960–976. <https://doi.org/10.1016/j.renene.2021.06.133>
- [6] **Eniola, V., Suriwong, T., Sirisamphanwong, C., Ungchittrakool, K., and Fasipe, O.** (2021). Validation of Genetic Algorithm Optimized Hidden Markov Model for Short-term Photovoltaic Power Prediction. *International Journal of Renewable Energy Research*. 11(2).
- [7] **Fasipe, O.A., Izinyon, O.C.** (2021). Exponent determination in a poorly gauged basin system in Nigeria based on flow characteristics investigation and regionalization method. *SN Appl. Sci.* 3, 319. <https://doi.org/10.1007/s42452-021-04302-3>
- [8] **Fasipe, O.A., Izinyon, O.C.** (2021). Feasibility Assessment of SHP Potential Using GIS-Enhanced RS Approach in Poorly Gauged River Basin in Nigeria. *Renewable Energy Focus*, Volume 36, Pages 65-78, ISSN 1755-0084, <https://doi.org/10.1016/j.ref.2020.12.005>. (<http://www.sciencedirect.com/science/article/pii/S1755008420300703>)
- [9] **Fasipe, O., Izinyon, O., Emeribe, C., Ilaboya, I., Eniola, V., Isagba, E., & Uwadia, N.** (2020). Identification of Owana Catchment Run-of-River Hydropower Potential Sites in Benin Owena River Basin Nigeria Using GIS And RS Procedures. *IISTE –Journal of Civil and Environmental Research.*, 12(10). <https://doi.org/10.7176/CER/12-10-05>
- [10] **Fasipe, O.A., Izinyon, O.C.** (2021). GIS and RS Techniques for Identification of Hydropower Potential Sites in Benin-Owena River Basin in Nigeria. *International Journal of Renewable Energy Research*. Vol. 10(1), 486–498.
- [11] **Aikhuele, J., Eniola, V., Aikhuele, A., Fasipe, O., Awuapila, N.** (2020). The Implementation of Biogas Production from Municipal Solid Waste in Nigeria. *IISTE –Journal of Energy Technologies and Policy*, 10(1), 61–68. <https://doi.org/10.7176/jetp/10-1-06>
- [12] **Emeribe, C. N., Isagba, E.S., Fasipe, O.A.** (2017). Determination of Supplementary Water Requirements of selected food Crops per growth stage using climatic Indices *American Journal of Water Resources* Vol. 5 (4) pp 106-116.
- [13] **Emeribe, C. N., Uwadia, N. O., Fasipe, O.A., Isagba, E.S.** (2017). Inter-Decadal Nature of Rainfall Character over Sudano-Sahel, North-West Nigeria. *AFri. Res. Review: An International Multi-Disciplinary Journal, Bahir Dar, Ethiopia* Vol. 11 (4), S/No 48, pp 55-73.

- [14] Emeribe, C. N., Ogbomida, E. T., **Fasipe, O.A.**, Biose, O., Aganmwonyi, I., Isiekwe, M., Fasipe, I. P. (2016). Hydrological Assessments of some Rivers in Edo State, Nigeria for Small-Scale hydropower development. *Nigerian Journal of Technology*, Vol. 35, No. 3, pp. 656 – 668. <https://doi.org/10.4314/njt.v35i3.26>
- [15] Aikhuele, J.G., Olayande, J.S., Manzo, H., **Fasipe, O.A.** (2015). Enhancing Unemployment & Development Opportunities through Petroleum Product Industries in Nigeria. *International Journal of Scientific & Engineering Research*, Volume 6, Issue 8, August 2015 Pp 1383 ISSN 2229-5518.

B. Conference Papers

- [1] **Fasipe, O.A.**, Variano, E.A. (2025). Decision Pathways for Sustainable Small Hydropower (SSHP) Planning: A Data-Driven Approach, presented at the 27th Annual Interdisciplinary Symposium of the Miller Institute of Basic Research in Science, 30th May – 1st June, Marconi Lodge, Tomales Bay, California, USA.
- [2] **Fasipe, O.A.**, Variano, E.A. (2024). Site Suitability Analysis for Sustainable Small Hydropower (SSHP), Abstract (H311-0712) presented at AGU24, 9-13 Dec.
- [3] **Fasipe, O.A.**, Variano, E.A. (2024) Application of Decision Science and Spatial Engineering for Sustainable Small Hydropower Planning, presented at the 26th Annual Interdisciplinary Symposium of the Miller Institute of Basic Research in Science, 31st May – 2nd June, Marconi Lodge, Tomales Bay, California, USA.
- [4] **Fasipe, O.A.**, Variano, E.A. (2023). Priority Setting Using MCDA Approach for Small Hydropower Planning in Nigerian Hydrological Basin, Abstract (H21Z-1684) presented at AGU23, 11-15 Dec.
- [5] **Fasipe, O.A.**, Izinyon, O.C. (2023). GIS and RS-based Identification of Hydropower Potential Site: A case study of Okhunwan Sub-basin in Benin-Owena River Basin, Nigeria. *Proceeding, The Fourth International Conference and Exhibition on Water Storage and Hydropower Development for Africa (AFRICA 2022)*, Lake Victoria: Uganda.
- [6] Ekpo, I., **Fasipe, O.**, Eniola, V., Aikhuele, J., Gbaja, I., and Ogualili, C. (2023). Exploring hybrid RE sources to mitigate energy needs in Nigeria. *Proceeding, The Fourth International Conference and Exhibition on Water Storage and Hydropower Development for Africa (AFRICA 2022)*, Lake Victoria: Uganda.
- [7] **Fasipe, O.A.**, Izinyon, O.C. (2022). Determination of run-of-river (ROR) SHP potential sites in Owan watershed Nigeria using RS & GIS techniques. *Proceeding, International Conference and Exhibition on Roles of Hydro in the Global Recovery (HYDRO 2022)*, Strasbourg: France.
- [8] **Fasipe, O.A.**, Izinyon, O.C. (2020). Estimation of discharge and determination of catchment: Area ratio exponent in a poorly gauged basin in Nigeria. *International Journal of Hydropower and Dams*, Vol. 27, Issue 5, 2020.
- [9] **Fasipe, O.A.**, Izinyon, O.C. (2022). Assessment of the small hydro potential of the Oyanmi sub-basin in Nigeria using remote sensing (RS) and geographic information system (GIS) techniques. *International Journal of Hydropower and Dams*, Vol. 27, Issue 5, 2020.
- [10] Eniola, V., **Fasipe, O.**, Aikhuele, J. (2020). Markov Process-based Photovoltaic Power Output Prediction: A Low-cost Solution to Resource Discontinuity. *Proceeding, International Conference and Exhibition on Strategies for Future Progress (HYDRO 2020)*, Strasbourg: France.
- [11] Eniola, V., Suriwong, T., Sirisamphanwong, C., **Fasipe, O.** (2018). Current Advances on Short-term Forecasting of Photovoltaic Power Output. *Proceeding, 4th ASEAN Smart Grid Congress (ASGC4)*, Phitsanulok: School of Renewable Energy and Smart Grid Technology, Naresuan University, Thailand.
- [12] **Fasipe, O. A.**, Emeribe, C.N., Isagba, E. S. (2018). Impacts of climatic variability on reservoir inflows to Kainji hydropower station, Nigeria and implications for hydropower output. *International Journal of Hydropower and Dams*, Vol.25, Issue 5, 2018.
- [13] Emeribe, C.N., **Fasipe, O. A.**, Isagba, E. S. (2018). Integrating community-based adaptation mechanisms into national response to hydrologically induced disaster management in Nigeria: An assessment of non-state actors involvement. *International Journal of Hydropower and Dams*, Vol.25, Issue 5, 2018.

- [14] **Fasipe, O.A.**, Eniola, V.O., Fasipe, I.P., Aikhuele, J.G. (2017). *Importance of Hydropower Plants in Nigeria Energy Planning. International Journal of Hydropower and Dams, Vol.24, Issue 2, 2017.*
- [15] Izinyon, O. C., **Fasipe, O. A.** (2013). *Assessment of the Hydropower Potential of Ikpoba River at the University of Benin Ugbowo Axis in Benin City. Proceeding, 5th Annual National Conference, Nsukka: Nigerian Association of Hydrological Sciences, University of Nigeria, Volume 5, 398–408.*
- [16] Agbonaye, I., Alabi, T. M., Gaji, M. M., **Fasipe, O. A.** (2012). *Nigeria Country Paper: Overview of Hydropower Resources and Potentials for Renewable Electricity. Paper presented at the Regional ECREEE Workshop on the ECOWAS Scale-Up Programme for Small-Scale Hydropower, Golden Gate Hotel, Monrovia, Liberia.*