

Abdulahi Opejin



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LinkedIn



GitHub



GIS Portfolio

EDUCATION

East Carolina University, Greenville, NC

Aug. 2024 – May 2028

Doctor of Philosophy – Integrated Coastal Science

Research Focus: Environmental Health, Natural hazards, Geospatial analytics, Machine learning.

East Carolina University, Greenville, NC

Aug. 2022 – May 2024

Master of Science – Geography and Geographic Information System

Thesis: Assessing bias in personal exposure to air pollution when indoor air quality and human mobility are ignored. A case study of eastern North Carolina and the Raleigh/Durham area

University of Lagos, Nigeria

Mar. 2019 – Jan. 2021

Master of Science – Urban and Regional Planning

Thesis: Flood vulnerability assessment and flood risk preparedness of Eti-Osa LGA, Lagos, Nigeria.

Osun State University, Nigeria

Aug. 2011 – Dec. 2016

Bachelor of Science – Urban and Regional Planning

Second Class (Upper Division)

PUBLICATIONS

- [Opejin Abdulahi](#), YM Park, (2024): Assessing bias in personal exposure level when indoor air quality and mobility are ignored: A case study of eastern North Carolina and the Raleigh/Durham Area. Science of the Total Environment. <https://doi.org/10.1016/j.scitotenv.2024.175249>
- Farinmade Ademola, Anyankora M.I., Unuigboje Richard, [Opejin Abdulahi](#), (2021): flood vulnerability assessment and risk preparedness in Eti-Osa Local Government, Lagos State, Nigeria. Quest Journal of Research in Environmental and Earth Sciences Volume 7 ~ Issue 9; 51-66.
- Farinmade Ademola, [Opejin Abdulahi](#), Akinyemi T., Unuigboje Richard, (2021): Housing condition and Socio-economic characteristic of slum Residents in Makoko. Quest Journals of Research in Humanities and Social Science Volume 9 ~ Issue 12; 72-84.

RESEARCH INTEREST

- Environmental Health/Exposure
- Flood mitigation
- Natural Hazards
- Geospatial Data Analytics
- Environmental Justice and Disparities
- Exposure to Air Pollution
- Geographic Information Science (GIS)
- Community-Engaged Research

CONFERENCE PRESENTATIONS

- **Opejin. A.** (2024) Environmental Systems Research Institute conference 2024 in San Diego, California. Themes: Geographic Information Systems – Uniting Our World (GIS User Conference – I did not present there).
- Hazeer A, **Opejin A**, Akinbami B, Musa Jimoh, Raji A, Owolabi B, Osundina O. (2024) “Analysis of Factors Influencing Residents’ Choice of Housing in The Otto-Awori Local Council Development Area”. International

Conference on Urbanization and Built Environment, Ladoke Akintola University of Technology, Ogbomoso, Nigeria.

- **Opejin, A.** (2024) ArcGIS User Conference (North Carolina). Exploring the Intersection of Geographic Information Systems and Artificial Intelligence (GIS User Conference – I did not present there).
- **Opejin, A. & Park, Y.M.** (2024) “Assessing Bias in Personal Exposure Estimates When Indoor Air Quality is Ignored: A Comparison Between GPS-Enabled Mobile Air Sensor Data and Stationary Sensor Network Data.” American Association of Geographers Annual Meeting, Honolulu, HI, US. April 16-20, 2024.
- **Opejin, A., Park, Y.M.** (2024) “Assessing Bias in Personal Exposure Estimates When Indoor Air Quality is Ignored: A Comparison Between GPS-Enabled Mobile Air Sensor Data and Stationary Sensor Network Data.” Paper Presentation at the ECU 18th annual Research and Creative Achievement Week, Greenville, North Carolina. April 1-5, 2024.

WORKSHOPS

National Science Foundation (NSF) - Natural Hazards Engineering Research Infrastructure (NHERI) Summer Institute for Early-Career Faculty at the University of Texas at San Antonio, Downtown Campus, June 14– 16, 2024.

GRANT AND AWARD

2024-2027 NSF Award: Coastlines and People (PhD stipend and tuition) \$134, 949.00

- 2023** NSF Travel Award to the NHERI Summer Institute for Early-Career Faculty at the University of Texas at San Antonio, June 21-23, 2023, \$1,901.00
- 2024** ECU Department of Geography, Planning, and Environment summer grant for Thesis Data Collection “Assessing Bias in Personal Exposure Estimates When Indoor Air Quality is Ignored.” 05/16/2022-06/30/2024. \$3,763.00
- 2023** ECU Department of Geography, Planning, and Environment summer grant for Thesis Completion and Publication “Assessing Bias in Personal Exposure Estimates When Indoor Air Quality is Ignored.” 05/16/2023-06/30/2023. \$3,763.00

PRESTIGIOUS ASSOCIATIONS

Mar 2023 International Geographical Honor Society (Gamma Theta Upsilon)

July 2022 Town Planners Registration Council of Nigeria

TECHNICAL SKILLS AND EXPERTISE

- **Programming Language:** Python, JavaScript, SQL
- **Packages:** NumPy, Pandas, Matplotlib, React.js
- **Web design:** Figma, HTML, CSS
- **Computing:** Version control (Git)
- **Urban Design:** AutoCAD, ArchiCAD, Atlantis Rendering Studio, Lumion
- **Geospatial Analysis:** ArcMap, ArcGIS Pro, Surfer, Shapely, ArcPy, Geopandas

JUDGING ROLE

- August 2024** Reviewed Manuscripts on “Assessment of Indoor Air Quality and Microbial” for the ICETS 2024 conference.
- July 2024** Reviewed Manuscripts for the 2024 IEEE Frontiers in Education Conference (FIE)
- April 2024** Served as Judge at First Robotics Competition
- March 2024** Served as a reviewer to review abstracts for the Natural Hazard Engineering Research Infrastructure Graduate Students Council Mini-Conference
- March 2024** Served as a Judge at the North Carolina Science Engineering Fair Conference

March 2024 Served as Judge at North Carolina Technology Student Association Conference

CERTIFICATIONS

2023 Python for Everyone – **Esri**

2023 Building Geoprocessing Models Using ArcGIS Pro – **Esri**

2022 Social and Behavioral Responsible Conduct of Research – by Citi Program

2022 Registered Town Planner – by Town Planners Registration Council of Nigeria

2021 Learning MySQL Development (2014) (LinkedIn Learning)

WORK AND RESEARCH EXPERIENCE

July 2024 – Present

Doctoral Researcher Assistant, Department of Coastal Studies, East Carolina University

- Supports environmental monitoring and data analysis for the Coastlines and People (CoPe) project.
- Evaluate temporal analysis of factors that influence river discharge on water quality
- Assists with data collection and analysis from water quality and level sensors
- Perform statistical data analysis using pandas and data visualization using matplotlib

Aug. 2022 – July 2024

Research Assistant in GeoHealth Lab, Department of Geography, East Carolina University

- Assists faculty with the literature review of peer-reviewed journal articles and data to thoughtfully identify trends and patterns
- Performed geostatistical analysis on individuals' GPS tracking data and high-resolution air pollution data using ArcGIS Pro and Python stand-alone program libraries Arcpy and Geopandas
- Performed statistical data analysis using pandas and data visualization using matplotlib
- Assisted faculty in developing Python scripts for data processing, data analysis, and integration with GIS systems, proctoring and grading of GIS examinations, and the Preparation of Labs for GIS courses
- Supervised GIS Lab for routine checking, updating, and installation of GIS software and statistical software on about 20 computer systems

April 2021 to July 2022.

Urban Planner at Folkland PDC (PWAN Group), Lagos, Nigeria.

- Revamped site operations through meticulous mapping, demarcation, and income-generating strategies, reducing downtime by 10% and boosting efficiency by 15%.
- Conducted property surveys and mapped out and zoned various land uses for development permits using AutoCAD.
- Executed topographical surveys and generated contour maps using ArcMap and Surfer.
- Prepared residential estate development plans, including layout plans for over 50 estates
- Designed site location maps, analysis maps, topographical maps, spot height, etc
- Oversaw architectural working drawings and dealt with issues regarding zoning and development

Mar. 2019 - Feb. 2021.

GIS Analyst at Metronome Consults, Lagos, Nigeria.

- I acquired satellite imageries from Google Earth and mosaiced them to digitize vector data
- Digitized features on imagery using ArcMap and ArcGIS Pro and integrated landowner's title information with their spatial attributes and created a Geodatabase for about 35 estates

- Developed Python script to perform geospatial analysis and data integration using GIS systems
- Conducted the digital survey of the socio-economic characteristics of residents using an Open Data Kit/Survey CTO,
- Managed the process of Data Conversion to integrate new geospatial data into existing GIS frameworks

Jan. 2018 - Jan. 2019.

Urban Planner/GIS Analyst at Home-For-All-Consult, Akure, Nigeria.

- Utilized Google Earth to locate sites and use it to design site location plans.
- Designed 3D models for residential buildings, layout plans, and architectural drawings.
- Designed Millennium College of Health Technology Campus Planning and design.
- Designed Legacy Polytechnic campus planning Project: Site Planning, Landscaping, 3D modeling, Contour map, etc.

April. 2015 – Oct. 2015.

Urban Planner Intern at Federal Ministry of Land, Housing, and Urban Development, Osogbo, Nigeria.

- Designed the layout plan for the Ile-Ife, Osu, and Ilesa Federal Government Site & Services Scheme.
- Designed the layout plan for the Ilesa Federal Government Site and Services Scheme.
- Proposed the Residential Layout Plan for Federal Govt. Secretariat along Ibokun Road.
- Managed development Control & monitoring, Layout Plans, Building plans, and Environmental Impact Assessment Reports.