

**OLUWATOSIN “TOSIN” OGUNMAYOWA**

olutosin@vt.edu | Address: Blacksburg, Virginia

**EDUCATION****Virginia Tech, Blacksburg, VA, USA**

Ph.D., Population Health Sciences (GPA – 4.0/4.0)

May 2023

**Virginia Tech, Blacksburg, VA, USA**

M.S., Environmental Health Sciences (GPA – 3.89/4.0)

May 2020

**Tennessee State University, Nashville, TN, USA**

M.S., Environmental Sciences (GPA – 4.0/4.0)

Dec. 2015

**TECHNICAL SKILLS****Data Analysis:** SAS, R, Tableau, Stata, JMP, SPSS, Minitab, HLM, ArcGIS, QGIS, Generalized Linear Model (GLM), Generalized Linear Mixed Model (GLMM), Multilevel Model**Data Management:** REDCap, Qualtrics, Covidence, Microsoft Excel, EndNote, Mendeley, GitLab**RESEARCH EXPERIENCE****Department of Population Health Sciences, Virginia Tech, Blacksburg, VA, USA****School of Plant and Environmental Sciences, Virginia Tech, Blacksburg, VA, USA***Graduate Research Assistant*

Aug. 2016 – Present

- Planned and managed two multiyear research projects that included epidemiological study design, data collection, data preparation, complex data analysis, data visualization, and scientific writing.
- Used SAS to create generalized linear mixed models (GLMMs) to analyze the largest publicly available all-payer healthcare cost and utilization databases to investigate the social determinants of health in the USA
- Used R programming to analyze electronic health records to investigate morbidity, acute care utilization, and the social determinants of sickle cell disease in southwest Virginia
- Used SAS and ArcGIS Pro to analyze and link spatial data to assess the effect of historical redlining on present-day neighborhood social vulnerability in the USA
- Used SAS to analyze survey data to evaluate racial and socioeconomic disparities in childhood obesity and neighborhood walkability in the United States
- Used R, JMP Pro, and ArcGIS Pro to analyze spatial data to understand the multiscale landscape and environmental drivers of water quality in the USA
- Used Covidence and Endnote to streamline and manage the production of high-quality systematic literature review
- Prepared research grant proposals and was awarded \$2,000 to conduct population health-related research
- Mentored an undergraduate student intern in regression analysis and oral presentation skills

**Center for Biostatistics and Health Data Science, Virginia Tech, Blacksburg, VA, USA***Research Intern*

May 2021 – Present

- Analyzed data for a principal investigator using SAS and R to generate linear mixed models and visualizations to examine sleep quality among vet. med. students across the USA. This project involved preparation of statistical analysis plan, summary report of data analysis, and scientific manuscript preparation
- Used SAS to perform initial data analysis in a project that evaluated the effectiveness of an FDA approved drug for nighttime agitation and restless leg syndrome among people with Alzheimer's disease
- Served as a mentor for two underrepresented minority students during a collaborative data science summer internship program

**Department of Agriculture and Environmental Sciences, Tennessee State University, Nashville, TN, USA***Graduate Research Assistant*

Aug. 2013– Dec. 2015

- Coordinated and strategically planned a two-year USDA-NIFA-funded project that involved the development of an environmental-friendly method for remediating soils contaminated with mixture of contaminants
- Performed literature review, field data collection, data analysis, data visualization, resulting in one published manuscript, and multiple presentations locally and nationally.
- Prepared research grant proposals, and was awarded \$2,500 to conduct research on environmental remediation

## TEACHING EXPERIENCE

**Department of Population Health Sciences, Virginia Tech, Blacksburg, VA, USA**

**School of Plant and Environmental Sciences, Virginia Tech, Blacksburg, VA, USA**

*Graduate Teaching Assistant*

Jan. 2017 – Present

- Troubleshooted R for 40 new learners two hours per week in a graduate-level “Epidemiology and Quantitative Methods in Public Health” lab
- Coordinated class activities for 80 students every week in the undergraduate-level “Epidemiology and Quantitative Methods in Public Health” class and evaluated them
- Taught and coordinated two introductory “Environmental Soil Science” laboratory sessions of 18 students per lab for 6 hours every week and evaluated the students
- Differentiated instruction to suit the needs of students with different learning aptitude
- Conducted field trips to provide students with real-world learning experiences

## LEADERSHIP EXPERIENCE

**Virginia Tech, Blacksburg, VA, USA**

*Collaborative Undergraduate Biostatistics Experience (CUBE)*

June 2022 – July 2022

- Served as a mentor for two underrepresented minority students during a collaborative data science summer internship program
- Coached the students on graduate school application process and funding opportunities

*Graduate Assistant and Student Ambassador*

Aug. 2019 – July 2022

- Promoted diversity and inclusion initiatives to enhance graduate students’ life
- Provided tour of the university campus to prospective graduate students
- Recruited prospective students and provided mentorship to three new graduate students
- Used Qualtrics to build survey to manage registration for events, analyze responses and obtain feedback that was tailored to improve the experience of students at subsequent events

*Co-Founder, African Graduate Student Organization*

Aug. 2018 - Present

- Co-founded the African Graduate Student Organization in 2018
- Created an avenue that ensured that both current and incoming students from Africa have the support and sense of belonging they need to thrive as members of the Virginia Tech community
- Provided opportunity for African students to share their cultural experiences to enrich the Virginia Tech community as well as facilitate outreach and research endeavors between members of the community who are interested in engaging in these activities within Africa and vice versa
- Provided opportunity for networking and sustained relationship between current students and alumni.
- Co-chaired the 2022 Electoral Committee of the organization and organized a successful election to usher in new leadership

*Departmental Representative, Graduate and Professional Student Senate*

Aug. 2018 - Dec. 2018

- Served as a departmental representative for more than 20 graduate students and facilitated information exchange between them and the university’s leadership
- Promoted graduate student opinion and concerns to the university’s leadership that resulted in policy changes
- Assisted the International Student Committee to forge partnership with Virginia Tech’s Career Center to provide better guidance to international graduate students in career preparation and exploration in order to help them meet their career goals

*Student Staff Leader, Black College Institute*

June 2018 - July 2019

- Mentored 3 groups of 10 minority high school students daily for two summers, assisted them to explore colleges, and provided guidance about college seeking process
- Coached the students to work as a team and think creatively to complete projects that involved identifying a social issue in their community and developing an action plan for that issue

## PEER REVIEWED PUBLICATIONS

- **Ogunmayowa, O., & Baker, C. (2022).** Neighborhood risk factors for sports and recreational injuries: a systematic review of studies applying multilevel modeling techniques. *Inj. Epidemiol.* **9**, 6 (2022). <https://doi.org/10.1186/s40621-022-00370-0>
- Jian, J., Yuan, X., Steele, M. K., Du, C., & **Ogunmayowa O. (2020).** Soil respiration spatial and temporal variability in China between 1961 and 2014. *Eur J Soil Sci.* 2020;1–17. <https://doi.org/10.1111/ejss.13061>
- Dzantor, E. K., Adeleke, E., Kankarla, V., **Ogunmayowa, O., & Hui, D. (2015).** Using coal fly ash in agriculture: combination of fly ash and poultry litter as soil amendments for bioenergy feedstock production. *CCGP*, **7**, 33-39. doi: 10.4177/CCGP-D-15-00002.1

**PEER REVIEWED PUBLICATIONS (Cont.)**

- Dzantor E. K., Kankarla, V., Adeleke, E. & **Ogunmayowa, O.** (2015). Contending with the global food, energy and environmental insecurities: Biomass production in degraded lands could be one solution. Pp 261-271, In Behl, R. K., Singh, A. P., Lal, A. B., Haesaert, G. (eds). *Proceedings of the International Conference on New Approaches in Food Security and Value Addition: Technological and Genetic Options*. February 17-19, 2014 ISBN: 978-93-81191-05-7.

**PEER REVIEWED ABSTRACTS**

- **Ogunmayowa, O.**, & Baker, C. (2022). Historical racial residential segregation and present-day social vulnerability in the United States. *Injury Prevention*, 28(Suppl 2), A29-A29. <http://dx.doi.org/10.1136/injuryprev-2022-safety2022.88>
- **Ogunmayowa, O.** & Baker, C. (2021). Application of multilevel modeling in sports and recreational injuries studies. *Injury Prevention*, 27(Suppl 2), 4A. <http://dx.doi.org/10.1136/injuryprev-2021-safety.97>

**NON-REFERRED PUBLICATIONS AND REPORTS**

- Nicchitta, N., **Ogunmayowa, O.**, Baker, C., & Atkinson, M. M. (2022). Sickle cell disease in southwest Virginia: Morbidity, acute care utilization, and the effects of social determinants of health in a mixed rural/urban medically underserved community. *Authorea*. March 30, 2022. <https://doi.org/10.22541/au.164865137.74003196/v1>
- **Ogunmayowa, O.** (2021). Evaluating the association between childhood obesity and neighborhood walkability in the United States. *Research report submitted and presented to faculty and students in the Environmental Health class at Virginia Tech*.

**MANUSCRIPTS SUBMITTED OR IN PREPARATION FOR REVIEW**

- **Ogunmayowa, O.**, Lozano, A., Hanlon, A., Paige, F., Cook, N., & Baker, C. (2023). Historical redlining and current neighborhood social vulnerability in the United States. Manuscript submitted for publication
- **Ogunmayowa, O.**, Lozano, A., Hanlon, A., Paige, F., Cook, N., & Baker, C. (2023). Historical redlining and current racial disparities in sports and recreational injury hospitalizations in the United States. Manuscript in preparation
- **Ogunmayowa, O.**, Lozano, A., Hanlon, A., Paige, F., Cook, N., & Baker, C. (2023). Social vulnerability and traumatic brain injury hospitalizations from sports and recreation among pediatric patients in the United States. Manuscript in preparation
- Nappier, N., Bartl-Wilson, L., **Ogunmayowa, O.**, Lozano, A., Hanlon, A., Shoop, T., Alvarez, E., Boynton, E., Horvath, S., Ng, Z., Welborn, N., & Wuerz, J. (2023). Differences in Sleep Quality and Sleepiness Among Veterinary Medical Students at Multiple Institutions Before and After the Pandemic Induced Transition to Online Learning. Manuscript in preparation.

**SELECTED PRESENTATIONS**

- **Ogunmayowa, O.** & Baker, C. (2022, November 27-30). *Historical racial residential segregation and present-day social vulnerability in the United States* [Oral presentation]. 14<sup>th</sup> World Conference on Injury Prevention and Safety Promotion (Safety 2022), Adelaide, Australia. <http://dx.doi.org/10.1136/injuryprev-2022-safety2022.88>
- **Ogunmayowa, O.** & Baker, C. (2022, November 27-30). *How does historical racial residential segregation and neighborhood vulnerability influence sports/recreational injuries* [Oral presentation]. 14<sup>th</sup> World Conference on Injury Prevention and Safety Promotion (Safety 2022), Adelaide, Australia. [https://www.worldsafety2022.com/\\_files/ugd/a52314\\_42e9a68b94914e56b2752bba651213ac.pdf](https://www.worldsafety2022.com/_files/ugd/a52314_42e9a68b94914e56b2752bba651213ac.pdf)
- **Ogunmayowa, O.** & Baker, C. (2022, November 6-9). *How has social vulnerability changed in the past two decades in historically redlined neighborhoods?* [Roundtable presentation]. American Public Health Association Annual (APHA) Meeting, Boston, MA, United States. <https://apha.confex.com/apha/2022/meetingapp.cgi/Paper/518509>.
- **Ogunmayowa, O.** & Baker, C. (2022, June 14-17). *The effects of historical redlining on present-day neighborhood vulnerability in the United States*. [Oral presentation]. Society for Epidemiologic Research Annual Conference, Chicago, IL, United States. <https://epiresearch.org/event/the-effects-of-historical-redlining-and-current-neighborhood-disinvestment-on-health/>.
- **Ogunmayowa, O.** & Baker, C. (2022, March 26). *The effects of historical redlining on present-day neighborhood vulnerability in the United States*. [Poster presentation]. Virginia Public Health Association Annual Conference and Research Day, Blacksburg, VA, United States. <https://drive.google.com/file/d/1G8jsvtMNfUV3kpRxi9U0pFGjfXE2bh7G/view>.
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**SELECTED PRESENTATIONS (Cont.)**

- **Ogunmayowa, O.** & Baker, C. (2021, March 22-26). *Application of multilevel modeling in sports and recreational injuries studies*. [Oral presentation]. Virtual Pre-conference Global Injury Prevention Showcase 2021. <http://dx.doi.org/10.1136/injuryprev-2021-safety.97>.
- **Ogunmayowa, O.** & Baker, C. (2021, February 26). *Area-level risk factors for sports and recreational injuries: A systematic review of studies applying multilevel modeling techniques*. [Poster presentation]. VCOM Via Research Recognition Day, Blacksburg, VA, United States. <https://cld.bz/xWLxicy/114/>.

**HONORS AND AWARDS**

- Virginia Tech GRDP Research Grant Award (\$2000; Spring 2022): Among 25% funded proposals
- Virginia Tech TFP Travel Grant Award (\$750; Spring 2020)
- Virginia Tech TFP Travel Grant Award (\$300; Fall 2020)
- Ecological Society of America (ESA) Annual Meeting Registration Grant (2020)
- Golden Key International Honor Society Research Grant Award (\$2,500; 2015): Among 10 awardees globally
- TETFund Scholarship Award for Research Degree (\$39,000; 2013): One of 7 awardees among more 200 young researchers at the University of Benin

**CERTIFICATES**

- Graduate Certificate in Public Health, Virginia Tech (2022).
- Biomedical Research Course Certificate, CITI Program (2020).
- Social and Behavioral Research Course Certificate, CITI Program (2020).
- Basic Responsible Conduct of Research Course Certificate, CITI Program (2020).
- Research Conflict of Interest Training for Investigators, CITI Program (2020).
- COVID-19 Contact Tracing Course Certificate, Johns Hopkins University (2020).
- Agency for Healthcare Research and Quality (AHRQ) Healthcare Cost and Utilization Project (HCUP) Data Use Agreement Training Certificate (2020).
- Professional Development Program, Virginia Tech Graduate School (2019).
- Going Places with Spatial Analysis, ESRI (2016).
- Proficiency Certificate in Management, Nigerian Institute of Management (Chartered; 2011).

**PROFESSIONAL MEMBERSHIPS**

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| • American Public Health Association     | 2020 – Present |
| • Virginia Public Health Association     | 2021 – Present |
| • Virginia Rural Health Association      | 2021 – Present |
| • Society for Epidemiologic Research     | 2021 – Present |
| • Golden Key International Honor Society | 2013 – Present |

**SELECTED PROFESSIONAL SERVICE**

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| • <b>Journal of Health Care for the Poor and Underserved</b><br>Manuscript Reviewer | 2023 - Present |
| • <b>American Public Health Association</b><br>Abstract Reviewer                    | 2020 – Present |
| • <b>Graduate and Professional Student Senate, Virginia Tech</b><br>Grant Reviewer  | 2022 - Present |