

Kennedy O Doro, PhD

Department of Environmental SciencesThe University of Toledo
3100 W. Towerview Blvd, Toledo. Ohio 43606
E-Mail: kennedy.doro@utoledo.edu; Office: +1 419.530.2811

Research and Teaching Interests

Research: My research integrates geophysical imaging with hydrological and in situ measurements to better understand subsurface heterogeneity and its control on water flow, solute transport, and biogeochemical processes. I apply methods such as electrical resistivity, induced polarization, self-potential, and ground-penetrating radar, linking geophysical signals to underlying physical and ecological dynamics. By combining field experiments, sensor networks, and advanced modeling approaches including geostatistical inversion and physics-informed modeling, I develop process-based frameworks that improve predictive understanding. My work spans diverse environments, from aquifers to coastal ecosystems, with the goal of advancing water resource management, ecosystem resilience, and climate adaptation strategies. **Teaching:** I embrace a relationship-based approach to mentoring students and a holistic and adaptive approach to teaching general and applied geoscience-related subjects, particularly Fundamentals of Geology, Applied Geophysics, Environmental Geophysics, and Hydrogeology.

Education

07/2015	Ph. D. Applied Geosciences Faculty of Science, University of Tuebingen, Germany
09/2011	M.Sc. Applied & Environmental Geoscience Faculty of Science, University of Tuebingen, Germany
03/2003	B.Sc. Geology Delta State University, Abraka, Nigeria

Academic Appointments

06/2024 – present	Associate Professor of Environmental Geophysics (with tenure) Dept. of Environmental Sciences, The University of Toledo, OH, USA
08/2019 – 06/2024	Assistant Professor of Environmental Geophysics (tenure track) Dept. of Environmental Sciences, The University of Toledo, OH, USA
09/2018 – 08/2019	Visiting Research Fellow-Diaspora Experts Initiative Center for International Migration and Development (CIM), Germany and The University of Ibadan, Nigeria
04/2018 – 12/2018	Sessional Lecturer & Research Visitor Earth Sciences Department University of Toronto, ON, Canada
08/2015 - 01/2016	Junior Postdoctoral Fellow Volkswagen Foundation Postdoctoral Fellowships for African Researchers in the Engineering Sciences. Independent postdoctoral research grant awarded by the Volkswagen Foundation, Hannover, Germany. Hosted by Covenant University Ota, Nigeria and University of Kassel, Germany.

Industry Experience

02/2016 – 04/2019	Project Engineer –Direct-Sensing Specialist In situ Geotechnologies, Fugro Germany Land GmbH, Mössingen, Germany
03/2015 – 06/2015	Project Hydrogeologist Büro für Umwelt und Geowissenschaften – BUG Graml, Bad Füssing, Germany

Awards and Honors

2024	Near Surface Early Career Achievement Award American Geophysical Union (AGU)
------	---

2024	Faculty Early Career Development Program (CAREER) Award National Science Foundation (NSF)
2013	SEG / ExxonMobil Student Education Program Travel Grant
2012	Best Poster Award (M.Sc Category): 2012 Geo-symposium, University of Tübingen, Germany
2009 - 2010	Scholarship for Master Studies - Stipendium der Landesstiftung Baden-Württemberg für M.Sc.- Studiengang, University of Tuebingen, Germany
2000 2002	Elf Petroleum Nigeria Scholarship: An Undergraduate National Merit Scholarship Award for studying Geology at Delta State University, Abraka, Nigeria

Current Research Grants

2025 – 2027	National Science Foundation (NSF) “C2H2 EAGER: Redox-Driven Mobilization and Aerosolization of Harmful Algal Bloom Toxins in Lake Erie Stressed Soils.” \$300,000 awarded to Kennedy O. Doro, as PI and Dr. David Kennedy, Dr. Steve Haller and Dr. Andrew Fribley as co-PIs at The University of Toledo.
2024 – 2029	National Science Foundation (NSF) Faculty Early Career Development Program (CAREER). Project “CAREER: Electrical Signals in Soils Across Terrestrial and Aquatic Interfaces.” \$680, 238 awarded to Kennedy O. Doro, The University of Toledo
2024 – 2026	ODHE Harmful Algal Bloom Research Initiative (ODHE HABRI) grant. Project “Geophysical mapping of sub-bottom sediments, groundwater discharge zones, and bathymetry of inundated coastal wetlands and shallow Lakes.” \$210,971 awarded to the University of Toledo with Kennedy O. Doro as sole PI
2020 – 2026	US Department of Energy (DOE) Biological and Environmental Research program (BER) Grant. Project “Coastal Observations, Mechanisms, and Predictions Across Systems and Scales (COMPASS) - Field, Measurements, and Experiments (FME) pilot study” led by Pacific Northwest National Laboratory (PNNL) in collaboration with the University of Toledo, OH. \$4,597,963 awarded to the University of Toledo with Michael Weintraub as Lead Investigator and Thomas Bridgeman, Trisha Spanbauer, Inke Forbrich, and Kennedy Doro as co-Investigators.

Selected Key Publications

- [6] Adebayo, M. B., Bailey, V. L., Ehosioko, S., Emmanuel, E. D., Hopple, A. M., Regier, P., Rod, K. A., Chen, X., Ward, N. D., Megonigal, J. P., **Doro, K.O.** (2026). Capturing soil moisture and salinity changes in flooded coastal forests using electrical resistivity and induced polarization. *Vadose Zone J.* 25, e70072. <https://doi.org/10.1002/vzj2.70072>
- [5] **Doro, K. O.**, Kolapkar, A. M., Emmanuel, E. D. (2025). Combined self-potential and electromagnetic imaging provide insights into the spatial variation of wetland soil hydro-biogeochemical properties. *Environ Earth Sci*, **84**, 617 (2025). <https://doi.org/10.1007/s12665-025-12638-x>
- [4] Regier, P., Bond-Lamberty, B., Ward, N., Bailey, V., Peixoto-Bittencourt, R., Machado-Silva, F., McDowell, N., Morris, K., Myers-Pigg, A., Pennington, S., Rahman, M., Rich, R., Smith, R. W., Wilson, S., Woodward, S. C., Stearns A., Day, D., **Doro, K. O.**, Emmanuel, E. D., Ogunsola, O., Patel, K., Megonigal, J. P. (2025). Experimental flooding impacts soil biogeochemistry but not aboveground vegetation in a coastal forest. *Proceedings of the National Academy of Sciences*, 122(41), e2511756122. <https://doi.org/10.1073/pnas.2511756122>.
- [3] Emmanuel, E. D., Slater, L. D., **Doro, K. O** (2024). Exploring the induced polarization and surface conductivity relationship: The influence of varying soil physicochemical properties. *GEOPHYSICS*, 89 (2), 1 – 19. <https://doi.org/10.1190/geo2023-0345.1>.
- [2] Ogunkoya, A. O., Martin-Hayden, J. M., Fisher, T. G., **Doro, K. O.** (2023). An improved conceptual hydrogeological model of a post-glacial aquifer system using geophysical and geological datasets. *Environmental Earth Sciences*, 82 (493). <https://doi.org/10.1007/s12665-023-11197-3>.
- [1] **Doro, K. O.**, Stoikopoulos, N. P.⁺, Bank, C-G., Ferris, F. G. (2022). Self-potential time series reveal emergent behavior in soil organic matter dynamics. *Sci Rep* 12, 13531. <https://doi.org/10.1038/s41598-022-17914-5>

Professional Society Membership

2025 – to date	Member, European Geophysical Union (EGU)
2023 – to date	Member, Environmental and Engineering Geophysical Society
2012 – to date	Member, American Geophysical Union (AGU)
2010 – to date	Member, Society for Exploration Geophysicists (SEG)
2009 – to date	Member, European Associate of Geoscientists and Engineers (EAGE)