Kennedy O Doro, PhD

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Research and Teaching Interests

Research: My research focuses on improving our understanding of the variations in soil and aquifer properties and their hydrological and biogeochemical processes using geophysical methods combined with hydrological and in situ technologies. My team's adaptive hydrogeophysical imaging and parameter estimation techniques are used to [1] investigate soil and hydrological processes, [2] characterize contaminated sites, [3] monitor biogeochemical processes, and [4] investigate engineering, archaeological, and forensic sites.

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. As a geoscience teacher, I will continue to improve on a balanced use of experimental, qualitative, and quantitative approaches to understanding geo-environmental processes, occurrences, and applications, integrating current research and industry-related examples.

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** Dept. of Environmental Sciences, The University of Toledo, OH, USA
08/2019 – 06/2024	**Assistant Professor** 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

→ *Development and implementation of in-situ geophysical, hydrogeological, and geochemical techniques for soil and aquifer characterization and monitoring across European countries*

03/2015 – 06/2015 **Project Hydrogeologist**
Büro für Umwelt und Geowissenschaften – BUG Graml
Bad Füssing, Germany
→ *Geological and hydrogeological assessment of sites and preparation of expert reports for earth material exploration, soil and groundwater monitoring and geothermal projects*

10/2007 – 09/2009 **Geologist**
Rock Geophysical Nigeria Limited
Abuja, Nigeria
→ *Acquisition and inversion of geophysical data for groundwater exploration*
→ *Regional and local geological review of project sites*
→ *Well formation analysis and support of drilling team*

09/2004 – 09/2007 **Commercial Banking Officer**
Ecobank Plc, Lagos, Nigeria
→ *Business acquisition and customer relationship management*
→ *First level credit request processing and risk analysis*

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

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 as sole PI***
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***.
2023 - 2025	Ohio Department of Natural Resources (ODNR) through Ohio State University - Ohio H20hio Wetland Monitoring Program. Developing a wetland monitoring plan through the Lake Erie & Aquatic Research Network (LEARN). ***$1,212,646 awarded to the University of Toledo*** with ***Kennedy Doro as lead PI*** and Richard Becker and Thomas Bridgeman as co-investigators.
2022 - 2024	Department of Energy (DOE) – SBIR-Phase 2 grant awarded to Vista Clara as the Principal recipient. Project "Robust High-resolution Magnetic Resonance Sensors for In-situ Measurements of Soil Hydrogeology at Coastal Interfaces." ***$38,751 awarded to the University of Toledo with Kennedy O. Doro as the PI***
2021 - 2024	ODHE Harmful Algal Bloom Research Initiative (ODHE HABRI) grant. Project "Tracing flow and transport pathways in geographically isolated wetlands using Rainwater and Ambient Temperature (RwAT)." ***$154,884 awarded to the University of Toledo with Kennedy O. Doro as the PI***
2021 – 2023	Ohio Sea Grant Small Grant Award - Project "Locating agricultural drainage tiles at a large field scale using UAV-based imagery - A proof of concept study" - ***$10,000 – awarded to the University of Toledo*** with Richard Becker as lead PI and ***Kennedy O. Doro as co-PI***
2021 – 2023	Ohio Water Resources Center Small Project Grant. Project "Quantifying water flow pathway redistribution under agricultural drainage." ***$10,000 awarded to the University of Toledo with Kennedy O. Doro as lead PI***, Steven Lyon, and Miller Sam as co-PI
2020 – 2023	Ohio Department of Natural Resources (ODNR) through Ohio State University - Ohio H20hio Wetland Monitoring Program. Developing a wetland monitoring plan through the Lake Erie & Aquatic Research Network (LEARN). ***$748,871 awarded to the University of Toledo with Kennedy Doro as lead PI*** and Richard Becker and Thomas Bridgeman as co-investigators.
2020 – 2023	Ohio Sea Grant Small Grant Award - Project "Structural controls on wetland's hydrological capacity for nutrient attenuation within the Maumee watershed" - **$10,000 - Kennedy O. Doro as PI**

2020 - 2023	Ohio Lake Erie Commission's Lake Erie Protection Fund Grant - Project "Wetland's soil properties, hydrology, and nutrient retention capacity" - **$49,728 - Kennedy O. Doro PI** and Song Qian as co-PI
2019	AGU Centennial Grant – Project "Save My Water": A Science- Community-Policy Exchange Project - **$9,750 - *Kennedy O. Doro as PI***
2019	Society of Exploration Geophysics (SEG) Geophysics Field Camp Grant – A project on integrating geophysical and hydrogeological methods for hydrological model parameterization - **$7,250 Kennedy O. Doro *as PI***
2018 - 2019	Diaspora Expert Program of the Center for International Migration and Development (CIM), Germany. Visiting Researcher for "research and scientific exchange for developing local competence on soil and water resources management" – ***15,000 Euros Kennedy O. Doro as Visiting Fellow***
2015 - 2016	Volkswagen Foundation Junior Postdoctoral Research Fellowship. Hosted by the University of Tuebingen, Germany and Covenant University, Nigeria - Project "Adapting Cost-effective Hydrogeophysical Sensors and Techniques for Soil and Groundwater Management in Nigeria" – ***130,000 Euros Kennedy O. Doro as PI***
2015	Volkswagen Foundation Junior Postdoctoral Research Fellowship proposal preparation grant - Project "Adapting Cost-effective Hydrogeophysical Sensors and Techniques for Soil and Groundwater Management in Nigeria" – ***5,000 Euros Kennedy O. Doro as PI***

Career Development

Spring 2021	Student Experience Program, Equity Champion The University of Toledo Teaching Center I was involved in a semester-long initiative with a workshop on revising course syllabus, learning teaching approaches, and continuous assessment.
07/2020	Early Career Geoscience Faculty Workshop on "Teaching, Research, and Managing Your Career". Hosted virtually by the Science Education Resource Centre (SERC) at Carleton University and the National Association of Geoscience Teachers (NAGT).
05/2020	Online Teaching Certificate Course - An accelerated 2-week option for Faculty. The University of Toledo Teaching center.
04/2020	Online short courses on teaching - "How to spark conversation in the classroom" and "How can I create a platform for difficult conversation in the online classroom". The University of Toledo Teaching center.
2017 - 2019	Project Management Certification PMP® - Project Management International (PMI)

Publications (* = UToledo undergraduate student author; **= UToledo graduate student; + = External student co-supervised by me; ++ = Postdoc/Research Associate mentored by me)

Published Peer Reviewed Manuscript

[44] Rod, K. A., **Doro, K. O.,** Patel, K. F., Kemner, K. M., Wilson, S. J., Megonigal, J. P., Ward, N. D., Weintraub, M. N., Bailey, V. L. (2026). Alternating salt and freshwater floods of coastal soils impact soil structure, hydraulic properties, and oxygen dynamics. Vadose Zone J. Accepted.

[43] Adebayo, M. B.**, Bailey, V. L., Ehosioke, 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. Accepted.

[42] Otchere, N.**, Aizebeokhai, A. P., Martin-Hayden, J., **Doro, K. O.** (2026). Assessing subsurface heterogeneity and infiltration capacity at a restored wetland using geophysical imaging and infiltration tests. Wetlands 6, 4. https://doi.org/10.1007/s13157-025-02020-9

[41] 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

[40] Ward, N. D., Megonigal, J. P., Weintraub, M. N., Pennington, S. C., Regier, P., Peixoto, R. B., Bond-Lamberty, B., Chen, X., **Doro, K. O.,** Kemner, K. M., Machado-Silva, F., McDowell, N., Myers-Pigg, A., Sandoval, L., Patel, K. F., Thornton, P. E., Wilson, S., Bailey, V. , Rich, R. (2025). A Synoptic System for Capturing Ecosystem Control Points Across Terrestrial-Aquatic Interfaces. Journal of Geophysical Research: Biogeosciences, 130, e2025JG009335. https://doi.org/10.1029/2025JG009335

[39] Patel, K. F.,Malhotra, A., Norris, C. G., McKever, S. A., Fields, D. A., Musci, J. I., Bandopadhyay, S., Bond-Lamberty, B., Chen, X., Day, D. J, **Doro, K. O.,** Fluet-Chouinard, E., Garcia, M., Kemner, K. M., Machado-Silva, F., McDowell, N., Morris, K. A., Myers-Pigg, A., O'Loughlin, E. J., O'Meara, T., Peixoto, R. B., Pennington, S. C., Regier, P., Rich, R., Rod, K. A., Sulman, B., Thornton, P., Ward, N. D., Wilson, S. J., Weintraub, M. N., Megonigal, J. P., Bailey, V. L. (2025). Transition zones at the changing coastal terrestrial-aquatic interface. Journal of Geophysical Research: Biogeosciences, 130, e2025JG008978. https://doi.org/10.1029/2025JG008978

[38] 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.

[37] Doro, K. O., Olabode, P.**, Adeniran, M. A., Oladunjoye, M. A. (2025). Understanding complex hydraulic heterogeneities in crystalline basement aquifers used as drinking water sources. Geosciences, 15(7), 239. https://doi.org/10.3390/geosciences15070239

[36] Fisher T. G., Aden, D. J., Parrick, B. D., **Doro, K. O.,** Sasowsky, I. D., Norris, T. A., Chartolani, N. G. (2025). Subtle relict channels associated with large dolines in an area formerly beneath the Laurentide Ice Sheet northern Ohio, USA. Boreas, https://doi.org/10.1111/bor.70016. ISSN 0300-9483.

[35] Adeniran, M. A.+, Oladunjoye, M. A., **Doro, K. O.** (2024). Assessing the use of electrical resistivity for monitoring crude oil contaminant distribution in unsaturated coastal sands under varying salinity. Geosciences, 14 (11), 308. https://doi.org/10.3390/geosciences14110308

[34] Cristino, K.+, **Doro, K. O.,** Armstrong A.+, Forbes, S., Ribereau-Gayon, A., Bank, C-G. (2024). Electrical resistivity tomography of simulated graves with buried human and pig remains. Forensic Science International, 364, 112248. https://doi.org/10.1016/j.forsciint.2024.112248

[33] Adeniran, M. A.+, Oladunjoye, M. A., **Doro, K. O.** (2024). Electrical resistivity imaging of crude oil contaminant in coastal soils – A laboratory sandbox study. Journal of Applied Geophysics, 230, 10556. https://doi.org/10.1111/1556-4029.15622

[32] Armstrong A.+, **Doro, K. O.,** Cristino, K.+, Ribereau-Gayon, A., Forbes, S., Wadsworth, W. T. D., Bank, C-G. (2024). Comparison of GPR signals over simulated clandestine graves with domestic pigs (Sus Scrofa domesticus) and human remains. Journal of Forensic Sciences. https://doi.org/10.1111/1556-4029.15622

[31] Machado-Silva, F., Weintraub, M. N., Ward, N., **Doro, K. O.** Regier, P. J., Ehosioke, S., Thomas, S. P., Peixoto, R. B., Sandoval, L., Forbrich, I., Kemner, K. M., O'Loughlin, E. J., Stetten, L., Spanbauer, T., Bridgeman, T. B., O'Meara, T., Kenton, A. R., Patel, K., McDowell, N. G., Megonigal, J. P., Rich, R. L., Bailey, V. L. (2024). Short-term groundwater level fluctuations drive subsurface redox variability. Environmental Science & Technology, 58, 14687–14697. https://doi.org/10.1021/acs.est.4c01115

[30] Driba, D. L., Emmanuel, E. D.**, **Doro, K. O.** (2024). Predicting wetland soil properties using machine learning, geophysics, and soil measurement data. Journal of Soils and Sediments, 24, 2098 – 2415. https://doi.org/10.1007/s11368-024-03801-1

[29] Ehosioke, S.[++], Adebayo, M. B.**, Bailey, V., Pioxoto, R. B., Emmanuel, E. D.**, Machado-Silva, F., Regier, P. J., Spanbauer, T., Thomas, S. P., Ward, N. D., Weintraub, M. N., **Doro, K. O.** (2024). Geophysical methods reveal the soil architecture and subsurface stratigraphic heterogeneities across land-lake interfaces along Lake Erie. Journal of Soils and Sediments, 24, 2215 – 2236, https://doi.org/10.1007/s11368-024-03787-w

[28] Patel, K. F., Rod., K. A., Zheng, J., Regier, P., Machado-Silva, F., Bond-Lamberty, B., Chen, X., Day, D. J., **Doro, K. O.,** Kaufman, M. H., Kovach, M., McDowell, N., McKever, S. A., Megonigal, J. P., Norris, C. G., O'Meara, T., Rich, R., Thornton, P., Kemner, K. M., Ward, N. D., Weintraub, M. N., Bailey, V. L (2024) Time to anoxia: Observations and predictions of oxygen drawdown following coastal flood events. Geoderma, 444, 116854. https://doi.org/10.1016/j.geoderma.2024.116854

[27] 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. **1st Quartile Journal in discipline (H1=200; IF=3.3)**

[26] 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. **2nd Quartile Journal in discipline (H1=130; IF=3.1)**

[25] Adebayoa, M. B.**, Bailey, V. L., Chen, X., Hopple, A. M., Jiang, P., Li, B., Li, Z., Martin-Haydena, J. M., Megonigal, P. J., Regier, P. J., Rich, R., Stegen, J. C., Smith, R., Ward, N. D., Woodard, S. C., **Doro, K. O**. (2023). A hydrogeophysical framework to assess infiltration during a simulated ecosystem-scale flooding experiment. Journal of Hydrology, 626, Part A (130243). https://doi.org/10.1016/j.jhydrol.2023.130243. **1st Quartile Journal in discipline (H1=260; IF=6.4)**

[24] Emmanuel, E. D.**, **Doro, K. O.,** Iserhien-Emekeme, R. E., Edmund A. (2023). Geophysical assessment of hydrostratigraphic conditions at earthen fishpond sites in the Niger-Delta region of Nigeria. Heliyon, 9, e17618. https://doi.org/10.1016/j.heliyon.2023.e17618. **1st Quartile Journal in discipline (H1=69; IF=4.0)**

[23] Jekayinfa, S. M.[+], Oladunjoye, M. A., **Doro, K. O.** (2023). Effects of groundwater flow on the distribution of bitumen contaminants in a shallow coastal plain sand aquifer. Journal of African Earth Sciences, 28, 104946. https://doi.org/10.1016/j.jafrearsci.2023.104946. **2nd Quartile Journal in discipline (H1=83; IF=2.5)**

[22] Emmanuel, E. D.**, Lenhart, C. F., Weintraub, M. N., **Doro, K. O**. (2023). Estimating soil properties distribution at a restored wetland using electromagnetic imaging and limited soil core samples. Wetlands 43, 39. https://doi.org/10.1007/s13157-023-01686-3. **2nd Quartile Journal in discipline (H1=92; IF=2.1)**

[21] Adeniran, M. A.[+], Oladunjoye, M. A., **Doro, K. O**. (2023) Soil and groundwater contamination by crude oil spillage: A review and implications for remediation projects in Nigeria. Frontiers in Environmental Sciences. 11 – 2023, https://doi.org/10.3389/fenvs.2023.1137496. **1st Quartile Journal in discipline (H1=50; IF=5.4)**

[20] Hopple, A. M., **Doro, K. O**., Bailey, V. L., Bond-Lamberty, B., McDowell, N., Morris, K., Myers-Pigg, A., Pennington, S. C., Regier, P., Rich, R., Sengupta, A, Smith, R., Stegen, J., Ward, N. D., Woodard, S.C.,

Megonigal, J. P. (2023). Attaining freshwater and estuarine-water soil saturation in an ecosystem-scale coastal flooding experiment. Environmental Monitoring & Assessment, 195, 423. https://doi.org/10.1007/s10661-022-10807-0 - **2nd Quartile Journal in discipline (H1=122; IF=3.3)**

[19] Jekayinfa, S. M.[+], Oladunjoye, M. A., **Doro, K. O.** (2023). A review of the occurrence, distribution, and impact of bitumen seeps on soil and groundwater in parts of southwestern Nigeria. Environmental Monitoring & Assessment, 195, 351. https://doi.org/10.1007/s10661-023-10960-0 - **2nd Quartile Journal in discipline (H1=122; IF=3.3)**

[18] Doro, K. O., Adegboyega, C. O.[+], Aizebeokhai, A. P., Oladunjoye, M. A. (2023). The Ibadan Hydrogeophysics Research Site (IHRS) – An observatory for studying hydrological heterogeneities in a crystalline basement aquifer in Southwestern Nigeria. Water, 15(3), 433; https://doi.org/10.3390/w15030433 - **1st Quartile Journal in discipline (H1=69; IF=3.5)**

[17] Jekayinfa, S. M.[+], Oladunjoye, M. A., **Doro, K. O.** (2023). Imaging the distribution of bitumen contaminants in shallow coastal plain sands in Southwestern Nigeria using electrical resistivity. Environ. Earth Sci. 82 (55). https://doi.org/10.1007/s12665-022-10718-w - **2nd Quartile Journal in discipline (H1=130; IF=3.1)**

[16] 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 - **1st Quartile Journal in discipline (H1=242; IF=5.0)**

[15] Doro, K. O., Emmanuel, E. D.**, Adebayo, M. B.**, Bank, C-G., Wescott, D. J., Mickleburgh, H. L. (2022). Time-lapse electrical resistivity tomography imaging of buried human remains in simulated mass and individual graves. Frontiers in Environmental Sciences, 10: 882496. https://doi.org/10.3389/fenvs.2022.882496 - **1st Quartile Journal in discipline (H1=50; IF=5.4)**

[14] Doro, K. O., Kolapkar, A. M.*, Bank, C-G., Wescott, D. J., Mickleburgh, H. L. (2022). Geophysical imaging of buried human remains in simulated mass and single graves: Experiment design and results from pre-burial to six months after burial. Forensic Science International, 335 – 111289. https://doi.org/10.1016/j.forsciint.2022.111289 - **1st Quartile Journal in discipline (H1=128; IF=2.7)**

[13] Becker, A. M.*, Becker R. H., **Doro, K. O.** (2021) Locating drainage tiles at a wetland restoration site within the Oak Openings region of Ohio, United States using UAV and land based geophysical techniques. Wetland, 41, 116. https://doi.org/10.1007/s13157-021-01495-6 - **2nd Quartile Journal in discipline (H1=92; IF=2.1)**

[12] Doro, K. O., Deng, E. A.[+], Bank, C-G (2020): Gradient magnetometer datasets and MATLAB numerical code for simulating buried firearms at a controlled field site. Data in Brief, 31 - 106050. https://doi.org/10.1016/j.dib.2020.106050 - **4th Quartile Journal in discipline (H1=37; IF=1.1)**

[11] Deng, E. A.[+], **Doro. K. O.,** Bank, C-G. (2020): Suitability of magnetometry to detect clandestine buried firearms from a controlled field site and numerical modeling. Forensic Science International, 314 - 110396. https://doi.org/10.1016/j.forsciint.2020.110396 - **1st Quartile Journal in discipline (H1=128; IF=2.7)**

[10] Doro, K. O., Ehosioke, S., Aizebeokhai, A. P. (2020): Sustainable Soil and Water Resources Management in Nigeria: The Need for a Data Driven Policy. Sustainability, 12(10), 4204. https://doi.org/10.3390/su12104204 - **2nd Quartile Journal in discipline (H1=109; IF=3.9)**

[9] Doro, K. O., Cirpka, O. A., Leven, C. (2015): Tracer tomography: Design concepts and field experiments using heat as tracer. Groundwater, 53:139 – 148. https://doi.org/10.1111/gwat.12299 - **1st Quartile Journal in discipline (H1=99; IF=2.9)**

[8] Doro, K. O., Leven, C., Cirpka, O. A. (2013): Delineating subsurface heterogeneity at a River Loop using geophysical and hydrogeological methods. Environ. Earth Sci., 69 (2) 335 – 348. https://doi.org/10.1007/s12665-013-2316-0 - **2nd Quartile Journal in discipline (H1=130; IF=3.1)**

Published Peer Reviewed Extended Abstracts

[7] Adebayo, M. B.**, Ehosioke, S., Emmanuel, E. D., Hopple, A. M., Regier, P., Megonigal, P. J., Ward, N. D., Bailey, V. L., **Doro, K. O.** (2023). Time-lapse electrical resistivity and induced polarization monitoring of a simulated ecosystem-scale coastal flooding experiment. SEG Technical Program Expanded Abstracts 2023. https://doi.org/10.1190/image2023-3906870.1

[6] Adebayo, M. B.**, Jang, P., Chen, X., Hopple, A. M., Megonigal, P. J., Shuai, P., **Doro, K. O.** (2022): Quantifying infiltration in a simulated rainfall event using geophysical measurements and an ATS-based flow model. SEG Technical Program Expanded Abstracts 2022. https://doi.org/10.1190/image2022-3750979.1

[5] Doro, K. O., Kolapkar, A.*, Becker, A. M*. (2021). Using shallow subsurface geophysical models to guide restoration of old agricultural fields in Northwestern Ohio. SEG Technical Program Expanded Abstracts 2021. https://doi.org/10.1190/segam2021-3576450.1

[4] Doro, K. O., Adegboyega, C. O.$^{+}$, Aizebeokhai, A. P., Oladunjoye, M. A. (2020). Hydrological variability in crystalline basement aquifers – insight from a first Hydrogeophysics Research Site in Nigeria. European Association of Geoscientists & Engineers, Conference Proceedings, NSG2020 26th European Meeting of Environmental and Engineering Geophysics, Dec 2020, Volume 2020, p.1 – 5, DOI: https://doi.org/10.3997/2214-4609.202020123

Published Book Chapters and Report

[3] Mickleburgh, H.L., Procopio, N., Bonicelli, A., Ogbanga, N., Sguazzi, G., Gino, S., van der Hulst, R., Doro, K. O., Gocha, T.P., Wescott, D.J., Kootker, L.M. (2025). The Mass Grave Project. In Forensic Archaeology and New Multidisciplinary Approaches (pp. 111-134). Springer, Cham. https://doi.org/10.1007/978-3-031-86308-0_8

[2] Hanson, R. B., Kruse, S., Comas, X., **Doro, K. O.,** Holmes, T., Knight, R., Lyon, L., McDaris, J., Minsley, B., Morris, I., Tribaldos, V. R., Slater, L., Tsai, V., Zhang, C. (2022). Defining Research and Teaching Priorities that Could be Advanced Through a Near-Surface Geophysics Center. Earth and Space Science Open Archive. https://doi.org/10.1002/essoar.10512087.1

[1] Cirpka, O. A., Leven, C., Schwede, R., **Doro, K. O.,** Bastian, P., Ippisch, O., Klein, O., Patzelt, A. (2014): "Tomographic Methods in Hydrogeology." In: Weber M., Münch U. (eds) Tomography of the Earth's Crust: From Geophysical Sounding to Real-Time Monitoring. Advanced Technologies in Earth Sciences. Springer, Cham https://doi.org/10.1007/978-3-319-04205-3_9

Selected <u>INVITED</u> Talks and Conference Presentations

[9] Doro, K. O. (2025). Environmental Geophysics Signal Simulation Space (EGS3): A field research and teaching facility for advancing the use of geophysics for Near-Surface applications (Invited Speaker). AGU 2025 Annual Fall Meeting, New Orleans, USA.

[8] Doro, K. O., Emmanuel, E. D., Ogunsola, O. Q., Olabode, P. I. (2025). Repeated geoelectrical monitoring of soils across coastal interfaces reveals changes in soil hydrology and biogeochemistry (***Invited Speaker***). An Oral presentation at the International Meeting for Applied Geoscience and Energy, IMAGE, Houston, Texas.

[7] Doro, K. O., Emmanuel, E. D., Chen, X., Rod, K. A., Megonigal, P. J., Adebayo, M. B., Ogunsola, O. Q., Regier, P., Ward, N. D., Bailey, V. L. (2024). A hydrogeophysical imaging and modeling approach for predicting soil water saturation during a simulated coastal flooding experiment (***Invited Speaker***). AGU 2024 Annual Fall Meeting, Washington DC, USA.

[6] Doro, K. O., Emmanuel, E. D., Adebayo, B. M., Ogunsola, O. Q. (2024). Geophysical monitoring of a long-term coastal forest flooding experiment – results after 3 years, challenges and opportunities (***Invited***

Speaker). An Oral presentation at the International Meeting for Applied Geoscience and Energy, IMAGE, Houston, Texas.

[5] Doro, K. O., Adebayo, M. B.**, Bailey, V. L., Chen, X., Hopple, A. M., Jiang, P., Li, B., Li, Z., Megonigal, P. J., Ward, N. D. (2023). A hydrogeophysical imaging and modeling approach for predicting soil water saturation during a simulated coastal flooding experiment (***Invited Seaker***). Oral presentation at the International Meeting for Applied Geoscience and Energy, IMAGE, Houston, Texas.

[4] Doro, K. O. (2021). Wetland Hydrogeophysics - using geophysics to improve understanding of wetland subsurface heterogeneity and processes. ***Invited Talk*** at the weekly dept seminars of the University of Cincinnati and Wright State University. Virtual Events

[3] Doro, K. O. (2018): Static and transient targets imaging using geophysical methods: the "knowledge-transfer" challenge (***Invited Speaker***). AGU 2018 Annual Fall Meeting, Washington DC, USA

[2] Doro, K. O. (2018): Modern Field Investigation Techniques for Environmental and Mining Applications (**Invited Speaker**). Departmental weekly seminar, Department of Earth Sciences, University of Toronto, Canada

[1] Doro, K. O. (2018): Data Driven Policies: A Challenge for Academics and Case for Soil and Water Resources in Nigeria (**Invited Speaker**). A Lecture delivered at the 11th Annual Lecture of the School of Sciences, Federal University of Technology, Akure, Nigeria

Teaching

Spring 2025	EEES 6100 – Glacial Stratigraphy and Geophysics
	Enrollment: 7 Graduate and upper undergraduate students
Spring 2025	EEES 2100 – 001 Fundamentals of Geology
	Enrollment: 26 undergraduate students
	EEES 2100 – 002 Fundamentals of Geophysics Honors Section
	Enrollment: 5 undergraduate students
Spring 2024	EEES 4610/5610 Solid Earth Geophysics
	Enrollment: 7 M.S level graduate students and 2 3rd-year undergraduates
	EEES 2100 – 001 Fundamentals of Geology
	Enrollment: 23 undergraduate students
	EEES 2100 – 002 Fundamentals of Geophysics Honors Section
	Enrollment: 8 undergraduate students
Fall 2023	EEES 6100 – Glacial Stratigraphy and Geophysics
	Enrollment: 9 first- and second-year masters level students
Summer 2023	EEES 8980-012 – Advance Topics in Ecology – Hydrogeophysics
	Enrollment: 1 First year Ph. D. Student
	EEES 8990-012 – Readings in Ecology - Coupled surface and subsurface modeling.
	Enrollment: 1 First year Ph. D. Student
Spring 2023	EEES 2100 – 001 Fundamentals of Geology – standard and honors sections
	Enrollment: 35 2nd- and 3rd-year multidisciplinary undergraduate students in the regular section and 2 in the honors section

Fall 2022	EEES 6980-012 Special Topics on Numerical Methods in Geophysics
	Enrollment: 7 M.S level graduate students
Summer 2022	EEES 6980-012 Special Topics in Environmental Geophysics
	Enrollment: 2 M.S level graduate student
Spring 2022	EEES 4610/5610 Solid Earth Geophysics
	Enrollment: 5 M.S level graduate students and 2 3rd-year undergraduates
	EEES 2100 – 002 Fundamentals of Geophysics Honors Section
	Enrollment: 2 2nd-year undergraduates
Fall 2021	EEES 6100 Glacial Stratigraphy and Geophysics
	Enrollment: 7 M.S. Level graduate students
	EEES 4910-012 Directed Research
	Enrollment: 1 undergraduate student
Spring 2021	EEES 2100 Fundamentals of Geology
	Enrollment: 24 2nd- and 3rd-year multidisciplinary undergraduate students
	EEES 4910-012 Directed Research
	Enrollment: 1 undergraduate student
Fall 2020	EEES 6100 Glacial Stratigraphy and Geophysics. University of Toledo
	Enrollment: 5 M.S. Level graduate students
	EEES 6980-012/4980-012 Special Topics in Environmental Geophysics
	Enrollment: 1 M.S level graduate student and 1 undergraduate
	EEES 4910-012 Directed Research
	Enrollment: 1 undergraduate student
Spring 2020	EEES 2100 Fundamentals of Geology. University of Toledo
	Enrollment: 23 2nd- and 3rd-year multidisciplinary undergraduate students

Student Supervision, Mentoring, and Thesis Committee

Postdoctoral Research Associate (In Progress)

[10] Dr. Ahzegbogbor Philips Aizebeokhai: Research Associate focused on Near Surface Geophysics and Subsurface Hydrology at Wetland Complexes in Ohio. *Started in Fall 2024*

Student Advisee (in Progress)

[9] UToledo – Nick Livecchi: Predicting the spatial distribution of soil hydraulic conductivity using spectral induced polarization. *Undergraduate Research advisor* (In progress). *Started Spring 2025*

[8] UToledo – William Becker: Assessing the relationship between soil electrical polarization and phosphorus retention. *Undergraduate Research advisor* (In progress). *Started Spring 2025*

[7] UToledo – Colin O'Neil: Using cross-borehole GPR and tracer testing to assess hydraulic connectivity in carbonate bedrock aquifers. *M.S. Thesis advisor* (In progress). *Started Fall 2025*

[6] UToledo – Prince Atiti: Assessing surface-subsurface hydrological exchanges and its impact on biogeochemical cycling at a freshwater coastal interface. *PhD. Thesis advisor* (In progress). *Started Summer 2025*

[5] UToledo – Phebe Olabode: Hydrogeophysical imaging for understanding soil properties and hydrological changes across coastal interfaces. *Ph.D. Thesis advisor* (In progress). *Started Spring 2025*

[4] UToledo – Precious Ossai: Geophysical characterization of groundwater discharge zones in coastal wetlands and shallow Lakes. *M.S. Thesis advisor* (In progress). *Started Fall 2024*

[3] UToledo – Precious Abudu: Geophysical imaging of sub-bottom sediments and bathymetry in coastal wetlands and shallow lakes in Ohio. *M.S. Thesis advisor* (In progress). *Started Fall 2024*

[2] UToledo – Olawale Ogunsola: Hydrogeophysical monitoring and modeling of changes in soil saturation and salinity across terrestrial, aquatic interfaces. *Ph.D. Thesis Supervisor* (In progress). *Started Summer 2023*

[1] UToledo – Efemena Emmanuel: Electrical signatures in soils across Terrestrial and Aquatic Interfaces (TAIs). *Ph.D. Thesis Supervisor* (In progress). *Started Spring 2023*

Graduated students and Past Postdocs (Research Lab Alumni)

[13] UToledo – Valentina Ita – M.S Geology Graduated Summer 2025

M.S Thesis: A hydrogeophysical approach to investigating hydraulic heterogeneity and interaction between shallow unconfined and confined bedrock aquifers in the Oak Openings Region of NW Ohio.

Current Position: Hydrogeologist, Nebraska Geological Survey

[12] UToledo – Obed Yalley Kweku – M.S Geology – Graduated Summer 2025

M.S Thesis: Tracing subsurface flow in wetlands using rainwater and temperature.

Current Position: Research Assistant, University of Toledo, OH

[11] UToledo – Prince Atiti – M.S Geology – Graduated Spring 2025

M.S Thesis: Modeling hydraulic connectivity in fractured aquifers using MODFLOW.

Current Position: PhD Student, University of Toledo, OH

[10] UToledo – Hannah Lapoint – M.S Geology: Graduated Spring 2025

M.S Thesis: Rapid wetland soil characterization using geophysics.

Current Position: Research Technician, University of Toledo, Ohio

[9] UToledo – Dr. Solomon Ehosioke: Postdoc from October 2022 – April 2024

Project: COMPASS_FME: Hydrogeophysical characterization and monitoring of soil hydrological state changes across the Lake Erie Coastal Interface.

Current Position: Postdoctoral Research Associate, University of California, Davie / USDA

[8] UToledo – Obinna Urom – M.S. Geology: Graduated in Summer 2024

M.S. Thesis: Advancing the use of time-lapse ground penetrating radar (GPR) and Electromagnetic Imaging (EMI) for monitoring infiltration.

Current Position: PhD Student, Auburn University, AL, USA

[7] UToledo – Otchere Eugene – M.S. Geology: Graduated in Summer 2023

M.S. Thesis: Assessing subsurface flow in restored wetlands and their effects on nutrient retention.

Current Position: Searching for Industry Jobs

[6] UToledo – Adebayo Moses – M.S. Geology: Graduated in Summer 2023

M.S. Thesis: Understanding subsurface flow and solute transport redistribution in floodplains within Terrestrial-Aquatic-Interfaces (TAIs).

Current Position: Starting a Ph.D. Position in January 2024 at Colorado School of Mines

[5] UToledo - Efemena Emmanuel – M.S. Geology: Graduated in Fall 2022

M.S. Thesis: Predicting wetland soil properties distribution using Electromagnetic Induction (EMI) and Spectral Induced polarization (SIP) methods.

Current Position: Ph.D. Student, University of Toledo, Ohio

[4] UToledo - Akinwale Ogunkoya – M.S. Geology: Graduated in Fall 2022

M.S. Thesis: A Hydrogeophysical Investigation of Groundwater Flow in a Highly Heterogenous Aquifer System in Northwest Ohio

Current Position: Senior Staff Scientist, Geosyntec, Tampa, FL, USA

[3] UToledo – Kolapkar Amar – B.S. Geology: Graduated in Fall 2021

Undergraduate Honors Thesis: Developing the use of self-potential geophysical technique for characterizing wetland soils.

Current Position: Remote Sensing and Geophysics Field Technician, University of Toledo, Ohio

[2] UToledo – Anna M. Becker – B.S. Geology: Graduated Spring 2021

Undergraduate Honors Thesis: Characterizing structural and stratigraphic heterogeneities within wetlands using multiple geophysical methods.

Current Position: Remote sensing Consultant, Huntsville, Alabama

[1] Adele Metres – REU Student Summer 2021

Summer Research: A Geophysical Investigation of the Shallow Sandy Aquifer in the Oak Openings Region of Northwest Ohio. Results presented at the 2021 Annual Fall Meeting of the American Geophysical Union (AGU), New Orleans, USA.

Other Students – advised (External Supervision)

[3] Pan African University of Life and Earth Sciences – Margaret Adeniran: Non-invasive geophysical monitoring of hydrocarbon contamination in unconsolidated sediments. Ph.D. Dissertation Co-Supervisor. Started Spring 2021

[2] Pan African University of Life and Earth Sciences – Solomon Jekayinfa: In situ bitumen seeps impact on soil and groundwater resources in parts of the Dahomey basin southwestern Nigeria. Ph.D. Dissertation Co-Supervised by Dr. Oladunjoye, M. A. ***Ph.D. Thesis completed in March 2023***

[1] University of Ibadan, Nigeria - Christianah O. Adelakun: A framework for delineating groundwater protection zones in Nigeria. University of Ibadan, Nigeria. Co-advised by Dr. Michael Oladunjoye. ***M.Sc. thesis completed in March 2020***

Other Students – Member of Thesis Committee

[3] **UToledo** – Thomas Zych: Terrace Chronologies of The Maumee River Valley in the Western Lake Erie Basin. M.S Thesis committee member. ***Graduated Spring 2025***.

[2] UToledo – Seyi Ogundeji: Object-Based Classification of Unmanned Aerial Vehicles (UAVs)/Drone Images to monitor H2Ohio Wetlands M.Sc. Thesis committee member. ***Graduated Fall 2022***.

[1] UToledo - Madison R. Myers: Sandusky River Habitat Suitability Index and Migration Barrier Assessment for Walleye (Sander vitreous). M.Sc. Thesis committee member. ***Graduated Summer 2021***.

Service to the University of Toledo and Professional Community

2024 – to date	Vice Chair, Hydrogeophysics sub-committee, Hydrology Section, American Geophysical Union (AGU)
09/2025 – to date	Past-Chair, Near Surface Technical Session of the Society for Exploration Geophysicists (SEG-NSTS)
09/2024 – 08/2025	Chair, Near Surface Technical Session of the Society for Exploration Geophysicists (SEG-NSTS)
09/2023 – 08/2024	Chair-Elect, Near Surface Technical Session of the Society for Exploration Geophysicists (SEG-NSTS)
2019 - 2021	Chair, Global Subcommittee, Near Surface Technical Session, Society of Exploration Geophysicists (SEG).
2018 - 2023	Award committee chair, Near Surface Geophysics, American Geophysical Union (AGU).
2018 – to date	Session Convener, Hydrogeophysics and Advances in Applied Geophysics Sessions, Annual Fall Meeting of the American Geophysical Union (AGU).
2020 - to date	Ad-Hoc and Panel Proposal reviewer for the National Science Foundation (NSF) - Hydrological Sciences Division. Reviewed 3 proposals and served in 1 panel to date
07/2023 – to date	Associate Editor, Scientific Reports, a peer-reviewed open-access scientific journal published by Nature Portfolio, covering all areas of the natural sciences
2020 - to date	Reviewer for Geophysics, a journal published by the Society of Exploration Geophysicists.
2020 - to date	Reviewer for Water Resources Research, A publication of the American Geophysical Union published by Wiley & Sons
2014 - to date	Reviewer for Environmental Earth Sciences Journal published by Springer Nature
2019 – to date	Reviewer for Hydrology, Applied Science, Water, and Remote Sensing journals published by MDPI
2020 - to date	Member, Recruitment Committee, Department of Environmental Sciences, University of Toledo, Ohio
2020 - to date	Assistant Seminar Coordinator, Department of Environmental Sciences, University of Toledo, Ohio
2019 - to date	Member, Undergraduate Committee, Department of Environmental Sciences, University of Toledo, Ohio
2019 – to date	Member, University of Toledo Water Task Force, A focused interdepartmental research team of faculty with research interests on water resources