

Ahmed Ismail, PhD, PG

Principal Geophysicist | Maxima Geophysics, Dallas-Fort Worth Metroplex, TX, USA

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I am a professional geophysicist with over 25 years of experience in industry, research, and academia. Currently serving as the Principal Geophysicist and President of Maxima Geophysics LLC, my background encompasses extensive applications of seismic, electric, electromagnetic, and GPR methods for geotechnical, geological, environmental, and groundwater studies. I specialize in subsurface characterization, particularly under asphalt and concrete roads, using high-resolution seismic reflection methods. I taught numerous graduate and undergraduate geophysics courses, and successfully graduated 10 Ph.D. and Master's students. Additionally, I have authored over a hundred peer-reviewed geophysical papers and abstracts, and I am also a licensed Professional Geoscientist in the state of Texas. Dual citizenship: United States and Egypt.

EDUCATION

Ph.D. Geophysics, Missouri University of Science and Technology, 2003

M.Sc. Geology and Geophysics, Mansoura University, 1999

B.Sc. Geophysics, Mansoura University, 1992

PROFESSIONAL EXPERIENCE

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| 2023 - Present | Principal Geophysicist and President of Maxima Geophysics LLC, Dallas, TX |
| 2016 - 2024 | Assistant Professor of Geophysics: Oklahoma State University, Stillwater, OK |
| 2012 - 2016 | Group Leader: Multicomponent Seismic Processing, Schlumberger, Denver, CO |
| 2006 - 2012 | Geophysicist: Illinois State Geological Survey, Urbana-Champaign, IL |
| 2005 - 2006 | Post-Doctoral Fellow: Missouri University of Science & Technology, Rolla, MO |
| 2004 - 2005 | Research Scientist: National Research Institute of Astronomy and Geophysics, Egypt |
| 2001 - 2003 | Graduate Teaching Assistant: Missouri University of Science & Technology, Rolla, MO |
| 1997 - 2001 | Research Assistant: National Research Institute of Astronomy and Geophysics, Egypt |

Special Appointments

- Research Affiliate, Prairie Research Institute, University of Illinois at Urbana Champaign (UIUC).
- Fulbright Specialist Roster, U.S. Department of State's Bureau of Educational and Cultural Affairs.

FUNDED GRANTS and CONTRACTS

- 1- Ismail, A., 2022, Integrated geophysical investigations for seepage detection and monitoring at the dam in Oklahoma. Total Award: \$311,253.
- 2- Ismail, A., 2022, Groundwater exploration and capacity building in the northern western desert of Egypt. Geoscientists Without Borders (GWB) of the Society of Exploration Geophysicists (SEG). Total Award: \$75,920.
- 3- Ismail, A. and Laó-Dávila, D., 2022, External exploration holes, coring, strength testing, and geological characterization at a dam in Oklahoma. Total Award: \$1,732,662.
- 4- Ismail, A. and Laó-Dávila, D., 2022, Waterborne and ground-based geophysical surveys to image the Reeds Spring Limestone and Chattanooga Shale near a dam in Oklahoma.

- 5- Quan, T., Burket, A., Ismail, A., Puckette, J. and Toni, I., 2021, Developing a water research, assessment, and networking ecosystem (WRANE). National Science Foundation (NSF). Total Award: \$313,959.
- 6- Ismail, A., and Knapp, K., 2021, Marine geophysical equipment for lake paleo-environmental Studies. OSU College of Arts and Science, Student Technology Fee. Total Award: \$24,181.
- 7- Ismail, A. and Laó-Dávila, D., 2021, Solutions for evaluating, monitoring, and improving dam foundation conditions-Phase 2. Total Award: \$672,822.
- 8- Ismail, A., 2021, Improved P- and S-wave seismic reflection imaging of bedrock surface: Lexington, North Carolina. T and F Geosciences and Engineering Consultants, LLC. Total Award: \$50,000.
- 9- Laó-Dávila, D. and Ismail, A., 2019, Solutions for evaluating, monitoring, and improving dam foundation conditions-Phase 1. Total Award: \$677,638.
- 10- Ismail, A., 2019, Electrical resistivity tomography and seismic refraction surveys to image soil strata and bedrock surface at a geotechnical site in Sand Springs, Oklahoma. A&M Engineering & Environmental Services Inc. Total Award: \$5,250.
- 11- Ismail, A., 2019, Comparing four different geophysical methods for the investigation and assessment of Fly Ash Landfills. A&M Engineering & Environmental Services Inc. Total Award: \$18,250.
- 12- Ismail, A., 2018, Developing a seismic land streamer and measuring soil amplification of ground shaking. OSU Deans ASR+1 Program. Total Award: \$9,445.
- 13- Atekwana, E., and Ismail, A., 2017, Geophysical investigations for groundwater exploitation at the Child Legacy Compound, Malawi (CLC). Child Legacy International (CLI). Total Award: \$34,000.
- 14- Anderson, N., and Ismail, A., 2012, Utility of non-invasive technologies identified as applicable to MoDOT roadways. Total award \$37,909.
- 15- Ismail, A., 2010, High-Resolution P-and S-wave Seismic Imaging of Subsurface conditions at a Site in Calhoun County in Illinois, Illinois Mine Subsidence Insurance Fund (IMSIF). Total Award: \$15,000.
- 16- Denny, B., and Ismail, A., 2007, Assessment of a geophysical coal exploration method in a faulted terrain, Illinois Clean Coal Institute (ICCI), Total Award: \$ 99,558.

PUBLICATIONS

Publications in Peer-Reviewed Journals

1. Sanuade, Oluseun, and **Ahmed Ismail**. 2023. "Geophysical and Geochemical Pilot Study to Characterize the Dam Foundation Rock and Source of Seepage in Part of Pensacola Dam in Oklahoma" *Water* 15, no. 23: 4036. <https://doi.org/10.3390/w15234036>
2. Leonard O. Ohenhen, Micah Mayle, Folarin Kolawole, **Ahmed Ismail**, Estella A. Atekwana. 2023. 'Exploring for groundwater in sub-Saharan Africa: Insights from integrated geophysical characterization of a weathered basement aquifer system, central Malawi', *Journal of Hydrology: Regional Studies*, Volume 47, 101433. <https://doi.org/10.1016/j.ejrh.2023.101433>
3. Josh Bedell, **Ahmed Ismail**, Michael Grammer, Jim Puckette, Farag Mewafy and Bill Boykin, 2023. 'Multiscale fractures, stress, and reservoir quality characterization: The Mississippian Meramec and Osage intervals, STACK play, Central Oklahoma, *Journal of Applied Geophysics*, 219, 105244. <https://doi.org/10.1016/j.jappgeo.2023.105244>
4. Oluseun Sanuade, **Ahmed Ismail**, Andrew Stumpf. 2023. 'Comparing Vs profiles from MASW and downhole logging method from glacial deposits in central Illinois'. *Arab Journal of Geoscience*, 16, 196. <https://doi.org/10.1007/s12517-023-11270-y>

5. Sazal, Zonaed, Oluseun Sanuade, and **Ahmed Ismail**. 2022. 'Geophysical characterization of the Carl Blackwell earth-fill dam: Stillwater, Oklahoma, USA', *Pure and Applied Geophysics*, 179: 2853-67. <https://doi.org/10.1007/s00024-022-03078-w>
6. Diab, Ahmed and **Ahmed Ismail**. 2022. 'GPR detection of unmarked historic graves at the Fairlawn Cemetery in Stillwater, Oklahoma', *Archaeological Prospection*, 1–13. <https://doi.org/10.1002/arp.1884>
7. Sazal, Zonaed, **Ahmed Ismail**, and Jason Thomason. 2021. 'Seismic shear-wave characterization of sand and gravel groundwater aquifers in Northern Illinois', *Journal of Environmental and Engineering Geophysics*, 26: 183-93. <https://doi.org/10.32389/JEEG21-015>
8. Kuznetsov, Oleg, Igor Chirkin, Ahmed A Radwan, **Ahmed Ismail**, Yury Lyasch, Samuel LeRoy, Evgeny Rizanov, Sergey Koligaev, and Ahmed Abdelmaksoud. 2021. 'Man-made earthquakes prevention through monitoring and discharging of their causative stress-deformed states', *Arabian Journal of Geosciences*, 14: 1-9. <https://doi.org/10.1007/s12517-021-06646-x>
9. Abbasi Salman, **Ahmed Ismail**. 2021. 'Elimination of multiples from marine seismic data using the primary-multiple intermediate velocities in the τ -q domain ', *Journal of Seismic Exploration*, 30: 85 - 100.
10. Neely, William, **Ahmed Ismail**, Mohammed Ibrahim, and James Puckette. 2021. 'Seismic-based characterization of reservoir heterogeneity within the Meramec interval of the STACK play, Central Oklahoma', *Interpretation*, 9: T79-T90. <https://doi.org/10.1190/INT-2019-0197.1>
11. Campbell, Nathan, Estella Atekwana, Adam J Mathews, and **Ahmed Ismail**. 2020. 'Geophysical applications of magnetic sensors in smartphones', *The Leading Edge*, 39: 312-17. <https://doi.org/10.1190/tle39050312.1>
12. Rabeah, Taha, Kamal Ali, Sayed Bedair, Mervat A Sadik, and **Ahmed Ismail**. 2019. 'Exploration and evaluation of potential groundwater aquifers and subsurface structures at Beni Suef area in southern Egypt', *Journal of African Earth Sciences*, 151: 9-17. <https://doi.org/10.1016/j.jafrearsci.2018.11.025>
13. Motra, HB, J Mager, **Ahmed Ismail**, Frank Wuttke, Wolfgang Rabbel, D Köhn, M Thorwart, C Simonetta, and N Costantino. 2018. 'Determining the influence of pressure and temperature on the elastic constants of anisotropic rock samples using ultrasonic wave techniques', *Journal of Applied Geophysics*, 159: 715-30. <https://doi.org/10.1016/j.jappgeo.2018.10.016>
14. Fletcher, Andrew W, Mohamed G Abdelsalam, Luelseged Emishaw, Estella A Atekwana, Daniel A Laó-Dávila, and **Ahmed Ismail**. 2018. 'Lithospheric controls on the rifting of the Tanzanian craton at the Eyasi basin, eastern branch of the East African rift system', *Tectonics*, 37: 2818-32. <https://doi.org/10.1029/2018TC005065>
15. **Ismail, Ahmed**. 2018. 'Geophysical assessment and mitigation of degraded archaeological sites in Luxor Egypt. Book Chapter.' in El-Qady G. Metwaly M. (ed.), *Archaeogeophysics. Natural Science in Archaeology* (Cham: Springer). <https://doi.org/10.1007/978-3-319-78861-6>
16. Jason, F Thomason, Timothy R Larson, **Ahmed Ismail**, and Steve Sargent. 2018. 'Characterizing glacial sediments and features in northeast Illinois using electrical resistivity and seismic-reflection profiling', In: *Kehew A.E., and Curry B.B., (eds.), Quaternary Glaciation of the Great Lakes Region: Process, Landforms, Sediments, and Chronology. Geological Society of America Special Paper 233 - 44.* [https://doi.org/10.1130/2018.2530\(12\)](https://doi.org/10.1130/2018.2530(12))
17. **Ismail, Ahmed**, Adel Abdelnaby, and Timothy Larson. 2017. 'High-resolution P-and S-wave seismic reflection followed by engineering modeling for geotechnical site characterization in southern Illinois', *Journal of Environmental and Engineering Geophysics*, 22: 375-84. <https://doi.org/10.2113/JEEG22.4.375>
18. Kolawole, Folarin, Estella A Atekwana, and **Ahmed Ismail**. 2017. 'Near-surface electrical resistivity

- investigation of coseismic liquefaction-induced ground deformation associated with the 2016 Mw 5.8 Pawnee, Oklahoma, Earthquake', *Seismological Research Letters*, 88: 1017-23.
<http://dx.doi.org/10.1785/0220170004>
19. Mesbah, Hany S, **Ahmed Ismail**, Ayman I Taha, Usama Massoud, and Mamdouh M Soilman. 2017. 'Electrical and electromagnetic surveys to locate possible causes of water seepage to ground surface at a quarry open pit near Helwan city, Egypt', *Arabian Journal of Geosciences*, 10: 1-9.
<http://dx.doi.org/10.1007/s12517-017-2997-x>
 20. **Ismail, Ahmed**, F Brett Denny, and Mohamed Metwaly. 2014. 'Comparing continuous profiles from MASW and shear-wave reflection seismic methods', *Journal of Applied Geophysics*, 105: 67-77.
<http://dx.doi.org/10.1016/j.jappgeo.2014.03.007>
 21. Trommelen, Michelle S, Martin Ross, and **Ahmed Ismail**. 2014. 'Ribbed moraines in northern Manitoba, Canada: characteristics and preservation as part of a subglacial bed mosaic near the core regions of ice sheets', *Quaternary Science Reviews*, 87: 135-55. <http://dx.doi.org/10.1016/j.quascirev.2014.01.010>
 22. **Ismail, Ahmed**, Andrew Stumpf, and Robert Bauer. 2014. 'Seismic characterization of glacial sediments in central Illinois', *Journal of Applied Geophysics*, 101: 1-10.
<http://dx.doi.org/10.1016/j.jappgeo.2013.11.009>
 23. Stumpf, Andrew J, and **Ahmed Ismail**. 2013. 'High-resolution seismic reflection profiling: an aid for resolving the Pleistocene stratigraphy of a buried valley in central Illinois, USA', *Annals of Glaciology*, 54: 10-20. <https://dx.doi.org/10.3189/2013AoG64A602>
 24. Shaaban, Fathy, **Ahmed Ismail**, Usama Massoud, Hany Mesbah, Ahmed Lethy, and Abbas Mohamed Abbas. 2013. 'Geotechnical assessment of ground conditions around a tilted building in Cairo–Egypt using geophysical approaches', *Journal of the Association of Arab Universities for Basic and Applied Sciences*, 13: 63-72. <http://dx.doi.org/10.1016/j.jaubas.2012.06.002>
 25. Odah, Hatem, **Ahmed Ismail**, Ibrahim Elhemaly, Neil Anderson, Abbas M Abbas, and Fathy Shaaban. 2013. 'Archaeological exploration using magnetic and GPR methods at the first court of Hatshepsut Temple in Luxor, Egypt', *Arabian Journal of Geosciences*, 6: 865-71. <https://doi.org/10.1007/s12517-011-0380-x>
 26. Elwaseif, M, **Ahmed Ismail**, M Abdalla, M Abdel-Rahman, and MA Hafez. 2012. 'Geophysical and hydrological investigations at the west bank of Nile River (Luxor, Egypt)', *Environmental Earth Sciences*, 67: 911-21. <http://dx.doi.org/10.1007/s12665-012-1525-2>
 27. **Ismail, Ahmed**, and Neil Anderson. 2012. '2-D and 3-D resistivity imaging of karst sites in Missouri, USA', *Environmental & Engineering Geoscience*, 18: 281-93.
<https://doi.org/10.2113/gseegeosci.18.3.281>
 28. **Ismail, Ahmed**, Edward Smith, Andrew Phillips, and Andrew Stumpf. 2012. 'Pitfalls in interpretation of shallow seismic data', *Applied Geophysics*, 9: 87-94. <https://doi.org/10.1007/s11770-012-0318-4>
 29. Taha, Ayman, **Ahmed Ismail**, Usama Massoud, Hany Mesbah, and Vladimer Komarov. 2009. 'Induced polarization measurements for Gold exploration at the Eastern Desert of Egypt', *Bulletin of Earth Sciences of Thailand*, 2: 20–30.
 30. Thitimakorn, Thanop, **Ahmed Ismail**, Neil Anderson, and David Hoffman. 2009. 'Mapping a NEHRP site class using multi-channel analysis of surface waves (MASW) method in Southeast Missouri, USA', *Bulletin of Earth Sciences of Thailand*, 2: 31-39.
 31. Abdel Aal, Gamal Z, **Ahmed M Ismail**, Neil L Anderson, and Estella A Atekwana. 2008. 'Geophysical investigation of seepage from an earth fill dam, Washington County, MO', *Journal of Applied Geophysics, Egyptian Society of Applied Petrophysics (ESAP)*, 7.
 32. **Ismail, Ahmed**, and Neil Anderson. 2007. 'Near-surface characterization of a geotechnical site in north-east Missouri using shear-wave velocity measurements', *Near Surface Geophysics*, 5: 331-36.

<https://doi.org/10.3997/1873-0604.2007014>

33. **Ismail, Ahmed**, Gad El-Qady, Abeer El-Kenawy. 2007, 'Applications of geophysics to archaeology: resistance scanning investigation in the vicinity of El-Karnak Temple, Luxor, Egypt.' Egyptian Geophysical Society Journal, 4: 189 -98.
34. Metwaly, Mohamed, **Ahmed Ismail**, and Jun Matsushima. 2007. 'Evaluating some factors that affect feasibility of using ground penetrating radar for landmine detection', *Applied Geophysics*, 4: 221-30. <http://dx.doi.org/10.1007/s11770-007-0026-7>
35. Neil Anderson, **Ahmed Ismail**, Thanop Thitimakorn. 2007. 'Ground-Penetrating Radar: A tool for monitoring bridge scour', *Environmental and Engineering Geoscience*, 13: 1 - 10. <https://doi.org/10.2113/gseegeosci.13.1.1>
36. Anderson, Neil, Thanop Thitimakorn, **Ahmed Ismail**, and David Hoffman. 2007. 'A comparison of four geophysical methods for determining the shear wave velocity of soils', *Environmental & Engineering Geoscience*, 13: 11-23. <http://dx.doi.org/10.2113/gseegeosci.13.1.11>
37. Thanop Thitimakorn, Neil Anderson, David Hoffman, **Ahmed Ismail**. 2006. 'A comparative analysis of 2-D MASW shear wave velocity profiling technique', *Electronic Journal of Geotechnical Engineering (EJGE)*, 11: 1 - 17.
38. **Ismail, Ahmed**, Neil L Anderson, and J David Rogers. 2005. 'Hydrogeophysical investigation at Luxor, southern Egypt', *Journal of Environmental & Engineering Geophysics*, 10: 35-49. <http://dx.doi.org/10.2113/JEEG10.1.35>
39. **Ismail, Ahmed** 2003. 'Geophysical, hydrological, and archaeological investigation in the East Bank Area of Luxor-Southern Egypt', Doctoral Dissertation, University of Missouri-Rolla: Rolla, MO, USA. <https://doi.org/10.13140/RG.2.2.26397.97760>
40. Ibrahim EH, Elgamili MM, Hassaneen AGH, Soli-man MN, **Ismael Ahmed**. 2002. 'Goelectrical investigation beneath Behbiet ElHigara and ElKom ElAkhder archaeological sites, Samannud Area, Nile Delta, Egypt', *Archaeological Prospection*, 9: 105 -13. <https://doi.org/10.1002/arp.186>
41. El Gamili, Mahmoud M, Elkhedr H Ibrahim, Abdel Radi Gh Hassaneen, Mohamed A Abdalla, and **Ahmed Ismael**. 2001. 'Defunct Nile branches inferred from a goelectric resistivity survey on Samannud area, Nile Delta, Egypt', *Journal of archaeological science*, 28: 1339-48. <https://doi.org/10.1006/jasc.2001.0761>
42. **Ismail, Ahmed**. 1999. 'Shallow geophysical studies on Sammanud Area, Nile Delta-Egypt.', Master Thesis, Mansoura University, Egypt.

Conference Proceedings Papers

1. **Ismail, A.**, Mayle, M., Stumpf, A., Thomason, J., Atekwana, E., Larson, T., 2019: Geophysical imaging of sustainable water resources in complex geological settings: case studies from USA and Africa. The 8th International Conference on Water Resources and Arid Environments (ICWRAE 8): 22-24 January 2019, Riyadh, Saudi Arabia.
2. Atkinson L, Ross M, Stumpf M and **Ismail A**, 2011: Sedimentology and 3-D architecture of subsurface facies of the Illinoian deglaciation in east-central Illinois, USA. In Proceedings of Geohydro 2011 – Joint Meeting of the Canadian Quaternary Association (CANQUA) and the Canadian Chapter of the International Association of Hydrogeologists (IAH-CNC), 28–31 August 2011, Quebec City, Canada http://www.geolhydro2011.ca/gh2011_user/cle_usb?pdf?doc-2199.pdf.
3. Mekkawi, M., Saleh, A., **Ismail, A.**, 2010: Determining the basaltic flow direction at El Minya Area in Egypt using magnetic and anisotropy of magnetic susceptibility measurements. Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems, SAGEEP, pp. 300-308.

4. Sevi, A., **Ismail, A.**, and Stephenson, R., 2006: A geotechnical investigation of sandstone degradation in Luxor, Egypt, the 59th Canadian Geotechnical Conference – 7th Joint CNG/CGS Groundwater Specialty conference, Vancouver, British Columbia, Oct 1-4, 2006.
5. Anderson, N., Apel, D., **Ismail, A.**, Kovin, O., and Dezelic, V., 2006: Differentiating rooms and pillars on reflection seismic profiles: A seismic investigation of two abandoned coalmines, P 58-70, Highway Geophysics – NDE Conference, St. Louis, Missouri, December 4-7, 2006.
6. **Ismail, A.**, and Sargent, S., 2006: Imaging glacial sediments and underlying bedrock in Illinois using surface wave data acquired by a land streamer, P 286-299, Highway Geophysics – NDE Conference, St. Louis, Missouri, December 4-7, 2006.
7. Anderson, Derek N., Apel, D., Dezelic, V., **Ismail, A.**, and Kovin, O., 2006: Assessment of karst activity at highway construction sites in Greene and Jefferson counties, Missouri, using the electrical resistivity method, P 497-513, Geophysics – NDE Conference, St. Louis, Missouri, December 4-7, 2006.
8. Kim, W., **Ismail, A.**, Anderson, N.L., Atekwana, A., Buccellato, A., 2003: Non-destructive testing (NDT) for corrosion in bridge decks using GPR. In Proceedings of the 3rd International Conference on the Application of Geophysical Methodologies and NDT to Transportation Facilities and Infrastructure, Geophysics 2003, Orlando, FL, USA, 8–12 December 2003
9. Abdel Aal, G.Z, **Ismail, A.M.**, Anderson, N.L. and Atekwana, E.A., 2003: Geophysical investigation of seepage from an earth fill dam, Washington County, MO. In Geophysics 2003, the 3rd international conference on the application of geophysical methodologies and NDT to transportation facilities and infrastructure, Dec. 8-12 2003, Orlando Florida, USA.
10. Kim, W., **Ismail, A.M.**, Anderson, N.L. and Atekwana, E.A., 2003: Mapping variations in the relative spatial locations of embedded dowel bars using GPR, In Geophysics 2003, The third international conference on the application of geophysical methodologies and NDT to transportation facilities and infrastructure, Dec. 8-12 2003, Orlando Florida, USA.
11. Anderson, N. L., and **Ismail, A.M.**, 2002: A protocol for selecting appropriate geophysical surveying tools based on engineering objectives and site characteristics. The 2nd annual conference on the application of geophysical and NDT methodologies to transportation facilities and infrastructure, California, USA.

Expanded Abstracts

1. Aboud, E., **Ismail, A.**, Alqahtani, F., 2019: Subsurface structure of Saudi Cross-border city of NEOM deduced from magnetic data. 2nd Conference of the Arabian Journal of Geosciences (CAJG), 25–28 November 2019, Sousse, Tunisia.
2. **Ismail, A.**, Thomason, J., and Atekwana, E., 2017: Shear-wave seismic reflection for improved detection of ground subsidence and scouring features. Expanded Abstracts. International Conference on Engineering Geophysics, Al Ain, United Arab Emirates, 9-12 October 2017: pp. 28-31.
<https://doi.org/10.1190/iceg2017-002>
3. Kuznetsov, O.L., Chirkin, I.A., Radwan, A.A., Rizanov, E.G., **Ismail, A.**, Karnaukhov, S.M., and Yurov, A.A., 2017: Seismic analysis for predicting potential drilling hazards of deep-wells that may cause environmental disasters. Expanded Abstracts. International Conference on Engineering Geophysics, Al Ain, United Arab Emirates, 9-12 October 2017: pp. 384-387. <https://doi.org/10.1190/iceg2017-071>
4. Atekwana, E., Kolawole, F., **Ismail, A.**, and Harding J., 2017: Assessing earthquake rupture zones: An integrated electrical and aeromagnetic approach. International Conference on Engineering Geophysics. Expanded Abstracts. Al Ain, United Arab Emirates, 9-12 October 2017: pp. 268-271.
<https://doi.org/10.1190/iceg2017-047>

5. Metwaly, M., El Alfy, M., El awady, E., **Ismail, A.**, and El-Qady, G., 2014: Estimating aquifer hydraulic parameters from electrical resistivity measurements; a case study at Khuff Formation Aquifer, Al Quwy'ya Area, Central of Saudi Arabia. International Conference on Engineering Geophysics, Al Ain, United Arab Emirates, 15-18 November 2015: pp. 212-215.
<http://library.seg.org/doi/abs/10.1190/iceg2015-060>
6. Mekkawi, M., Saleh, A., and **Ismail, A.**, 2012: Determining the basaltic flow direction at El Minya area in Egypt using magnetic and anisotropy of magnetic susceptibility measurements: Extended Abstract, Proceedings of SAGEEP 25, March 25 –29, 2012, Tucson, Arizona, CD-ROM edition.
<https://doi.org/10.4133/1.4721796>
7. **Ismail, A.**, and Thomason, J., 2010: Effect of the overlying sedimentary sequence on the seismic imaging of the bedrock surfaces: McHenry County, Illinois. Society of Exploration Geophysicists International Exposition and 80th Annual Meeting 2010, SEG 2010, pp. 1877-1881. <https://doi.org/10.1190/1.3513207>

Abstracts

1. Ali H., Prasad M, **Ismail A**, Konfor NI, Joseph-Quentin YA, Sanuade OA, Agbogun HMD, Yem M, Magha A. Probing deeper: 2022: On delineating basement features to investigate fractured aquifers in a rural community. Paper presented at the SEG/AAPG International Meeting for Applied Geoscience & Energy, Houston, Texas, USA, August 2022. Paper Number: SEG-2022-3740653.
<https://doi.org/10.1190/image2022-3740653.1>.
2. **Ismail, A.**, Zonaed, S., and Sanuade, O., 2022: Improvements in Geophysical Investigations of Earth Fill Dams. Dam Safety 2022 Conference in Baltimore, MD, 18-22 September 2022.
3. Mewafy, F., **Ismail, A.**, 2022: Artificial intelligence for effective modeling of groundwater plumes based on limited geological and geophysical data. The 34th Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Denver Co, 20-24 March 2022.
4. **Ismail, A.**, Meese, P., Sanuade, O., 2022: Mining voids detection using seismic land streamer data at the Tri-State mining district in northeast Oklahoma. 34th Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Denver Co, 20-24 March 2022.
5. Sanuade, O., **Ismail, A.**, 2022: Bedrock mapping using MASW with inversion and interpretation constraints from seismic refraction. 34th Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Denver Co, 20-24 March 2022.
6. Sazal, Z., **Ismail A.**, Sanuade, O., 2021: Geophysical investigation at Carl Blackwell Dam, Stillwater, Oklahoma. 33rd Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Denver Co, 14-19 March 2021.
7. Henhen, L, Mayle M, Kolawole F, **Ismail A**, and Atekwana E, 2020: Investigating groundwater potential in basement aquifers using resistivity threshold, central Malawi. GSA 2020 Connects Online 26-30 October. <https://doi.org/10.1130/abs/2020AM-352195>
8. Ohenhen, L. M. Mayle, F. Kolawole, **A. Ismail**, E. A. Atekwana, 2020: Investigating groundwater potential in basement aquifers using resistivity threshold, central Malawi, National Association of Black Geoscientists 39th Annual Technical Conference, Sept. 10 – 11, 2020.
9. **Ismail. A.**, Daniel A. Laó-Dávila, Chris Stoner, Sazal Zonaed, Oluseun Sanuade, 2019: Earthfill dam safety investigation and monitoring using integrated geophysical methods, abstract. The 40th Annual Oklahoma Governor's Water Conference and Research Symposium, December 4-5, 2019, at Midwest City, OK.

10. **Ismail A**, and Stumpf A, 2019: Towards enhanced implementation of the high-resolution seismic techniques in geological and hydrogeological mapping: Geological Society of America Abstracts with Programs, v. 51, no. 2.
11. Beresh, S., **Ismail, A.** and AbdelSalam, M., 2019: Structural analysis of the Mid-Egyptian tectonic extensional corridor (METEC). Poster, Joint 53rd South-Central/53rd North-Central/71st Rocky Mtn Section Meeting – 2019. Vol. 51, No. 2. <http://dx.doi:10.1130/abs/2019SC-327691>
12. **Ismail A**, Abdelnaby A, Brand P, 2019: Why are the foundations of the Egyptian Temple of Karnak Crumbling into sand? An integrated archaeological, geophysical and engineering study. Symposium on the Application of Geophysics to Engineering and Environmental Problems 2019. May 2019, 1-3. <https://doi.org/10.4133/sageep.32-001>
13. Sazal Z, **Ismail A**, Thomason, J. 2019: Shear-wave reflection for aquifer characterization. Symposium on the Application of Geophysics to Engineering and Environmental Problems 2019. May 2019, 1-3.
14. Beresh, S., **Ismail, A.** and AbdelSalam, M., 2018: Constraining the Mid-Egyptian Tectonic Extensional Corridor (METEC). Poster, Geological Society of America Vol. 50, No. 6. Indiana, 6 November 2018, <http://dx.doi:10.1130/abs/2018AM-323654>
15. Sickbert, T. and **Ismail, A.**, 2018: Correlation and the lack thereof: injection, earthquake, and magnitude distributions in Oklahoma. Geological Society of America Abstracts with Programs. Vol. 50, No. 1. South-Central Section - 52nd Annual Meeting
16. **Ismail, A.**, 2017: Identifying areas of potential surface fissures and sand blows: A geophysical case study in central Oklahoma following the 2016 Mw 5.8 Pawnee, OK earthquake. Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Denver Co, 19-23, March 2017.
17. Nathan Campbell, Ismail, A and Jason Thomason, 2017: Detection of subsidence and scouring features using shear-wave seismic. Poster. Oklahoma Transportation Research Day, Metro Technology Center, Oklahoma City, OK, October 17, 2017.
18. Nathan Campbell, Ismail, A., Zonaed Sazal and Neil Anderson, 2017: Ground penetrating radar: A tool for monitoring bridge scour. Poster. Oklahoma Transportation Research Day, Metro Technology Center, Oklahoma City, OK, October 17, 2017.
19. Kolawole, F., **Ismail, A.**, Sickbert T., Pickens C., Beckendorff D., Mayle M., Ngalamo J., Nyalugwe V., Aghayan A., and Atekwana E., 2016: Geophysical investigation of liquefaction and surface ruptures at selected sites in Oklahoma post the 2016 Mw5.8 Pawnee, OK earthquake. AGU Fall Meeting, San Francisco, 12-16 December 2016.
20. **Ismail, A.**, 2016: Improvements that shear wave brings to engineering, hydrological and hydrocarbon exploration. The Arab Conference on Astronomy and Geophysics 5th Assembly ACAG-5, Cairo, Egypt, 16-20 October 2016.
21. Thomason, J.F., Larson, T., **Ismail A.**, and Sargent, S., 2016: Coupled 2-D geophysics to better characterize shallow sand and gravel aquifers, GSA North-Central 2016 Annual Meeting, 2016.
22. Larson T., **Ismail A.**, Thomason J, Curry B., Stumpf A., and Dey W., 2013: Integrating shear-wave reflection and resistivity profiling to improve subsurface characterization of glacial sediments. AGU Fall Meeting Abstracts 2012, NS31B-1681.
23. Phillips, A., **Ismail, A.**, Larson, T and Gemperline, J. 2013: Intercalating slack water lake and outwash deposits at a bedrock valley confluence in the lower Wabash Valley. Abstracts with Programs-Geological Society of America.
24. Torgashov, E., Anderson, N., and **Ismail, A.** 2012: Electrical resistivity tomography investigations: Abstract, Proceedings of SAGEEP 25, March 25 –29, 2012, Tucson, Arizona, CD-ROM edition.

25. Torgashov, E., Anderson, N., Li, M., and **Ismail, A.** 2012: Imaging in Karst Terrain using electrical resistivity tomography and surface wave methods: Abstract, Proceedings of SAGEEP 25, March 25 –29, 2012, Tucson, Arizona, CD-ROM edition.
26. Li, M., Elkrry, A., Torgashov, E., and **Ismail, A.**, 2012: The effects of varying acquisition parameters and array orientations: An MASW case study: Abstract, Proceedings of SAGEEP 25, March 25 –29, 2012, Tucson, Arizona, CD-ROM edition.
27. **Ismail A.**, Andrew Stumpf, Neil Anderson, and William Dey, 2012: Comparing shear wave velocity measurements from MASW and downhole seismic methods. Proceedings of SAGEEP 25, March 25 –29, 2012, Tucson, Arizona, CD-ROM edition.
28. Larson, T., **A. Ismail**, J.F. Thomason, B.B. Curry, A.J. Stumpf, and B. Dey, 2012: Integrating shear-wave reflection and resistivity profiling to improve subsurface characterization of glacial sediments, Abstract NS31B-1681 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
29. Thomason, J.F., Thomason, J.F., Larson, T., and **Ismail, A.**, 2011: Geologic framework model of a glacially-filled bedrock valley in McHenry County, Illinois. Geological Society of America Abstracts with Programs, Vol. 43, No. 5, p. 171.
30. Keefer, D.A., Thomason, J.F., Larson, T., **Ismail, A.**, and Lau, J.A., 2011: Three-dimensional geologic mapping and hydrogeologic investigations to support groundwater management in McHenry County, Illinois: Abstracts with Programs, Geological Society of America Annual Meeting, Minneapolis, MN, October 9-12, 2011, vol. 43.
31. **Ismail, A.**, Stumpf A., and Dey, W., 2009: Seismic characterization of glacial sediments in Central Illinois based on downhole seismic measurements. Portland GSA Annual Meeting (18-21 October 2009).
32. **Ismail, A.**, Anderson, N., and Atekwana, E., 2003: Hydro-geophysical investigation at Luxor-Southern Egypt (Abstract). American Geological Union (AGU) 2003 fall meeting, San Francisco.

Presentations

1. **Ismail, A.**, 2024, Detection of abandoned mines in urban areas using high-resolution P-and S-wave seismic reflection surveys. The 36th Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Tucson, AZ, 25-28 March, 2024.
2. **Ismail, A.**, 2024, Integrating seismic and electrical resistivity surveys for the characterization of embankment dams and foundation rock. The 36th Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Tucson, AZ, 25-28 March, 2024.
3. **Ismail, A.**, 2024, Seismic Imaging of Subsurface Deformation: Insights from Seismic Surveys Along Roads, Dams, and Abandoned Mines. Technical Presentation. The Foundation Performance Association, Houston Chapter, Houston, TX, March 14, 2024.
4. **Ismail, A.**, 2022: High-resolution geophysical surveys for near-surface characterization. Technical presentation, USDA-ARS Hydraulic Engineering Research Unit, Stillwater, OK, June 9, 2022.
5. **Ismail A.**, 2022: High-resolution P-and S-wave seismic land streamer surveys for near-surface characterization. Virtual Talk, US Army Corps of Engineers, St. Louis District, April 29, 2022.
6. **Ismail, A.**, 2022: Mining voids detection using seismic land streamer data at the Tri-State mining district in northeast Oklahoma. The 34th Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Denver Co, 20-24 March 2022.
7. **Ismail A.** 2022: Improving aquifer characterization by integrating cost-effective high-resolution seismic with the commonly used resistivity surveys. Geophysical Society of Oklahoma City Virtual Technical Talk, February 28, 2022.

8. **Ismail A.**, 2022: Seismic land streamer for subsurface investigations, Oklahoma Ground Water Association 2022 Conference and Trade Show, Thursday January 6, 2022.
9. **Ismail A.**, 2022: GPR and EM Geophysics demonstration, Oklahoma Ground Water Association 2022 Conference and Trade Show, Wednesday January 6, 2022.
10. **Ismail A.**, 2020: High-resolution P-and S-wave seismic land streamer surveys for hydrogeological and geotechnical applications, Oct 13, 2020. Dallas Geological Society Virtual Luncheon.
11. **Ismail A.**, 2019: An overview of the geoscience research and education at Boone Pickens School of Geology, Oklahoma State University. Invited talk, King Abdulaziz City for Science and Technology (KACST). January 21, 2019.
12. **Ismail A.**, 2019: An overview of the geoscience research and education at Boone Pickens School of Geology, Oklahoma State University. Invited talk, King Saud University (KSA). January 22, 2019.
13. **Ismail A.**, 2019: An overview of the geoscience research and education at Boone Pickens School of Geology, Oklahoma State University. Invited talk, Saudi Geological Survey. February 3, 2019.
14. **Ismail A.**, 2019: Geophysical imaging of sustainable water resources in complex geological settings: Case studies from USA and Africa. In Proceedings of 8th International Conference on Water Resources and Arid Environments 2019, Riyadh, Saudi Arabia, January 22-24, 2019.
15. **Ismail A.**, 2018: Geophysical imaging of sustainable water resources in complex geological settings: Case studies from USA and Africa. In Proceedings of 8th International Conference on Water Resources and Arid Environments 2018, Riyadh, Saudi Arabia, December 3-5, 2018.
16. **Ismail A.**, 2018: On the stability of the hypostyle hall of the Karnak Temple in Egypt: Assessments and plans for mitigations based on geophysical and engineering investigations. Invited talk, Civil Engineering Research Seminar Series. College of Engineering, University of Memphis, Memphis. October 24th, 2018 12:30PM.
17. **Ismail A.**, 2018: High-resolution seismic and radar imaging of bedrock surface. Invited Talk. Oklahoma Geological Survey, Oklahoma City, June 26th 2018 2:00-3:00PM.
18. **Ismail, A.**, 2017: Identifying areas of potential surface fissures and sand blows: A geophysical case study in central Oklahoma following the 2016 Mw 5.8 Pawnee, OK earthquake. Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Denver Co, 19-23, March 2017.
19. **Ismail A.**, 2017: Shear-wave seismic reflection for improved detection of ground subsidence and scouring features. Expanded Abstracts. International Conference on Engineering Geophysics, Al Ain, United Arab Emirates, 9-12 October 2017.
20. **Ismail A.**, 2017: Seismic analysis for predicting potential drilling hazards of deep-wells that may cause environmental disasters. Expanded Abstracts. International Conference on Engineering Geophysics, Al Ain, United Arab Emirates, 9-12 October 2017.
21. **Ismail A.**, 2016: Improvements that shear wave brings to engineering, hydrological and hydrocarbon exploration. The Arab Conference on Astronomy and Geophysics 5th Assembly ACAG-5, Cairo, Egypt, 16-20 October 2016.
22. **Ismail A.**, Andrew Stumpf and William Dey, 2009: Seismic characterization of glacial sediments in Central Illinois based on downhole seismic measurements. Portland GSA Annual Meeting (18-21 October 2009).
23. **Ismail A.**, Neil Anderson, and Estella Atekwana, 2003: Hydro-geophysical investigation at Luxor-Southern Egypt (Abstract). American Geophysical Union (AGU) 2003 fall meeting, San Francisco.

Selected Completed Research Projects

- 2024 • Seismic Reflection Survey for Mine Subsidence in Belleville, IL
- 2023 • Ground Penetrating Radar (GPR) and utility locator surveys over concrete secondary fuel containment area footprint around Fuel Tanks, DFW, TX.
- 2022 • Reprocessing of the MASW Data for Better Resolution of the Top of the Weathered Basement Rock at Lexington, NC.
- 2021 • Integrated geophysical investigations for seepage detection and monitoring at a Dam near Salina, Oklahoma.
- Exploration Borings, Sampling, Water Testing, Piezometer Installation, Strength Testing, and Geophysical Investigation of a Dam Spillway and Powerhouse Foundation. Solutions for evaluating, monitoring, and improving dam foundation conditions of a Dam, near Tulsa, Oklahoma.
- 2020 • Geophysical investigations of the former Duracell Battery Tech Facility for mapping the basement bedrock.
- 2019 • Comparing four different geophysical methods for the investigation and assessment of fly ash landfills in Tulsa, OK.
- 2019 • Electrical resistivity tomography and seismic refraction surveys to image the soil strata and bedrock surface at a geotechnical site in Sand Springs, Oklahoma.
- 2017 • Seismic and resistivity surveys for groundwater exploration at the Child Legacy Compound, Malawi, Africa.
- 2014 • Aramco NW Turayf and Wa'ed 2D3D3C, Schlumberger data processing for Saudi Arabia.
- 2013 • Petrabras 2D3C deep seismic investigation, Schlumberger data processing for Argentina.
- Mata Verde 3D3C, Schlumberger data processing for Mexico.
- Locohills 3D P-wave seismic study, Schlumberger data processing for New-Mexico, USA
- 2012 • Integrated shear wave reflection, downhole seismic and resistivity tomography for groundwater aquifer characterization at McHenry, County Northern Illinois.
- 2011 • Structural characterization of Hicks Dome area in southern Illinois based on P-wave seismic reflection investigation.
- High-resolution shear-wave reflection investigation for glacial sediments characterization at west borders of Kentucky State, USA.
- Seismic characterization of Wabash Island in southern IL to determine the thickness of the glacial sedimentary sheet and buried glacial valleys.
 - Shear-wave velocity measurements using multi-channel analysis of surface wave (MASW) method at test sites “Westview, Botten Field and Kenwood schools” in Champaign, IL, for Midwest Engineering and Testing, INC.
 - Shear-wave velocity measurements using multi-channel analysis of surface wave (MASW) method at test sites in O’Hare airport, IL, for O’Brien & Associates, Inc.
 - Shear-wave velocity measurements using multi-channel analysis of surface wave (MASW) method at test sites in Flossmoor, IL, for OZ Engineering, LLC.
 - Shear wave reflection and resistivity surveys for minor fractures imaging at Lebanon Quad, Southern Illinois.
- 2010 • Geophysical imaging of ice wall feature using integrated surface wave seismic and ground penetrating radar data, Champaign County, central Illinois.
 - Mapping Mahomet Aquifer at Champaign County and Middle Fork area based on high resolution P-and S-wave seismic reflection data.
 - Seismic imaging of mined out areas at a land slide site in Calhoun County, South Illinois using high resolution P-and S-wave seismic reflection and P-wave refraction seismic data.
 - Assessment of a geophysical coal exploration method in a faulted terrane using multi-channel analysis of surface waves (MASW) geophysical technique, Harrisburg, Illinois.

- Mapping shallow bedrock surfaces along Maple Avenue in La Grange Village, IL using shear wave seismic reflection method.
- 2009 ▪ East-Central Illinois Water Supply Planning Support using high-resolution P-and S-Waves reflection land streamer data.
- Mapping Mahomet Groundwater Aquifer in Champaign County using high-resolution P-Waves reflection land streamer and resistivity tomography data.
- High-resolution shear wave seismic reflection and borehole seismic investigation for the NE Illinois Water Supply Planning Support project.
- Mapping buried bedrock valley of the Spoon River in Peoria, Illinois using shear-wave reflection.
- Shear wave investigation for three-dimensional reconstruction of till
- Stratigraphy to develop till depositional models, and understand aquifer recharge and quality protection, Indiana, USA
- Detection of an old abandoned coal mine beneath a property near Cambria, IL using ultra high- resolution shear-wave reflection method.
- Comparing 1D shear wave velocity profiles from shallow boreholes and MASW methods at eleven boreholes in central Illinois.
- 2008 ▪ P-and S-wave seismic land streamer study for geological mapping of the Freeburg Quad, northern Illinois.
- East-Central Illinois Water Supply Planning Support in Tolono Quadrangle based on integrated P-wave and S-wave seismic reflection data.
- S-wave reflection investigation in support for geological mapping of Barrington Quad, Fox Lake County, southern Illinois.
- Shear wave reflection imaging in support of the geological mapping of Dupage County, northern Illinois.
- Aquifer characterization at the 18-township project in north central Illinois based on intensive P-Wave seismic reflection surveys.
- 2007 ▪ MASW and downhole P-and S-wave investigation for quaternary geological mapping at Kendall County, Illinois, USA.
- Multi-channel analysis of surface waves (MASW) for imaging the thin glacial sheet at Lebanon Quad and Mascoutah Quad south west Illinois.
- Geological mapping at Fox Lake county, southern Illinois using multi-channel analysis of surface waves (MASW) and downhole measurements.
- Multi-channel analysis of surface wave (MASW) and downhole for geological mapping at Harrisburg area, southern Illinois.
- Seismic background noise test at Decatur area as part of the larger CO₂ sequestration seismic characterization study in north Illinois.
- 2006 ▪ Designing and modifying seismic land-streamers and downhole hammer
- Seismic investigation of the abandoned coal mines in southern Illinois
- 2005 ▪ St. Louis metro area shear-wave velocity imaging using MASW technique.
- Louisville Southern Indiana - Ohio River Bridges evaluation using MASW and SASW measurements.
- Kentucky East End Approach Tunnel imaging using integrated geophysical techniques.
- 2004 ▪ Mapping bedrock structures around Lake Nasser in Aswan, Egypt, using resistivity and VLF methods to determine the cause of the enormous water loss from the lake.
- 2002 ▪ A 2-D MASW S-wave velocity profile along a test segment of interstate I-70, St. Louis, MO
- Bridge deck inspection using GPR, to map areas of chloride corrosion.

- Gold exploration in the western desert of Egypt using the IP geophysical method a collaborative project between Russia and Egypt.
- 2001
 - Dowel bars detection in concrete pavement using GPR, south-west Missouri
 - Mapping seepage from an earth-fill dam in Washington County, Missouri, using the ERT and SP geophysical methods
 - Geophysical investigations of the east bank of Luxor in Egypt to mitigate the alarming decay of the ancient temples.
- 2000
 - Shallow geophysical investigation in the Sammanud area in the central part of the Nile Delta, to protect buried antiquities and map defunct Nile branches.
 - Geoelectrical Investigation Beneath Behbiet ElHigara and ElKom ElAkhder Archaeological Sites, Nile Delta, Egypt.

PROFESSIONAL SOCIETY MEMBERSHIPS

- Society of Exploration Geophysicists (SEG)
- American Association of Petroleum Geologists (AAPG)
- Environmental and Engineering Geophysical Society (EEGS)
- Association of State Dam Safety Officials (ASDSO)
- Tulsa Geological Society (TGS)
- Dallas Geological Society (DGS)