



# CURRICULUM VITÆ

## Dr. GAMAL ZIDAN ABDELAAL

Professor of Applied Geophysics  
Geology Department  
Faculty of Science  
Assiut University  
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## PROFESSIONAL PREPARATION

Assiut University, Assiut, Egypt	Geology	BS 1992
Assiut University, Assiut, Egypt	Geophysics	MS 1999
University of Missouri-Rolla, USA	Geophysics	PhD 2004

## APPOINTMENTS

2016-present	Professor of Applied Geophysics, Assiut University, Assiut, Egypt
2012-2014	Assistant Research Scientist, Oklahoma State University, USA
2010-2016	Associate Professor of Geophysics, Assiut University, Assiut, Egypt
2007-2009	Visiting Scholar at Oklahoma State University, USA
2005-2007	Assistant Professor, Assiut University, Assiut, Egypt
1999-2004	Assistant Lecturer, Assiut University, Assiut, Egypt
1993-1998	Demonstrator of Geology, Assiut University, Assiut, Egypt

## WORK EXPERIENCE

- Professor of applied geophysics (2016-present).
- Associate professor of applied geophysics (2010-2016).
- Assistant Research Scientist (2012-2014) at School of Geology, Oklahoma State University, Oklahoma State, USA.
- Post doctor fellow (2007-2009) at School of Geology, Oklahoma State University, Oklahoma State, USA.
- Workshop on Groundwater Modeling and GIS Applications that held from 11/04-17/04/2007 by German professor at the Geology Department, Assiut University, Egypt.

- Workshop on environmental impact and risk assessment (EIRA) that held from 28/03-4/4/2007 by German professor at the Geology Department, Assiut University, Egypt.
- GIS training course in Hydrogeology and Environmental Geology that held from 1-31, August 2006 at the institute of Geological Sciences, Martin Luther University, Halle -Wittenberg.
- GIS trainer at Geology Department, Faculty of Science, Assiut University.
- Member of the European TEMPUS project to design a master program in applied environmental geosciences and water resources management, 2005-2006.
- Lecturer at the University of Assiut, Assiut, Egypt, 2005-2009
- Teaching and research assistant at the University of Missouri–Rolla, Rolla, MO, 2001-2004.
- Teaching assistant at Western Michigan University, Kalamazo, MI, 2000.
- Lecturer Assistant at University of Assiut, Assiut, Egypt, 93-98

## COURSE TAUGHT

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| <ul style="list-style-type: none"> <li>• Electrical &amp; Electromagnetic Methods</li> <li>• Engineering Geophysics</li> <li>• Applied Geophysics</li> <li>• Potential Field (gravity and magnetic)</li> <li>• Subsurface Geology</li> <li>• Radiometric and Geothermal Methods</li> </ul> | <ul style="list-style-type: none"> <li>• Physical Geology</li> <li>• Geomorphology</li> <li>• Introduction to GIS</li> <li>• Computer applications in Geology</li> <li>• Introduction of statistics in Geology</li> <li>• Ground penetrating radar</li> </ul> |
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## PUBLICATIONS

### *PEER REVIEW JOURNALS*

- 1- **G. Z. Abdelaal**, M. Attia, M.M Abdel Dayiem, A. E. El-Haddad (2020), Application of 2D Homogeneous Function Method to Study the Subsurface Geologic Section in the Northwestern Part of the Kharga Oasis Area, Western Desert, Egypt. Assiut Univ. J. of Geology, in press.
- 2- **Gamal Z. AbdelAal** , Assem E. El-Haddad , Mona S. Badri1 and Moahmed A. Mohamed (2019), Inferring Depth to Basement Using Airborne Magnetic Data at Wadi El Nakhil Area, Eastern Desert, Egypt. Assiut Univ. J. of Geology, ISSN 1687-4843 48(1), pp1-11.
- 3- CL Rosier, EA Atekwana, **GA Aal**, MA Patrauchan, (2019), Cell concentrations and metabolites enhance the SIP response to biofilm matrix components, Journal of Applied Geophysics 160, 183-194.
- 4- **Abdel Aal, G. Z.**, E. A. Atekwana, and D. D. Werkema (2017), Complex conductivity response of silver nanoparticles in partially saturated sand columns. J. Appl. Geophys. 137, 73–81.

- 5- CL Beaver, AE Williams, EA Atekwana, FM Mewafy, **G Abdel Aal**, (2016), Microbial communities associated with zones of elevated magnetic susceptibility in hydrocarbon-contaminated sediments, *Geomicrobiology Journal* 33 (5), 441-452
- 6- Estella A. Atekwana and **Gamal Z. Abdel Aal** (2015), Iron Biomineralization Controls on Geophysical Signatures of Hydrocarbon Contaminated Sediments, *Journal of Earth Science*, 26 (6), 835-843.
- 7- A Revil, **GZ Abdel Aal**, EA Atekwana, D Mao, N Florsch, (2015), Induced polarization response of porous media with metallic particles—Part 2: Comparison with a broad database of experimental data, *Geophysics* 80 (5), D539-D552
- 8- Beaver, C.L, A.E., Williams, E. A. Atekwana, F. M. Mewafy, **G. Abdel Aal**, L.D. Slater and S. Rossbach, (2015), Microbial communities associated with zones of elevated magnetic susceptibility in hydrocarbon-contaminated sediments, *Geomicrobiology*, DOI: 10.1080/01490451.2015.1049676.
- 9- Revil, A., **G.Z. Abdel Aal**, E.A., Atekwana, M. Deqiang, N. Florsch (2015), The complex conductivity response of porous media with metallic particles. 2. Comparison with a broad database of experimental data, *Geophysics*, 80, D539–D552, 10.1190/GEO2014-0578.1.
- 10- **Abdel Aal, G. Z.**, E. A. Atekwana, and A. Revil (2014), Geophysical signatures of disseminated iron minerals: A proxy for understanding subsurface biophysicochemical processes, *J. Geophys. Res. Biogeosci.*, 119, 1831–1849, doi:10.1002/2014JG002659.
- 11- **Gamal Z. Abdel Aal** and Estella A. Atekwana, (2014), Spectral induced polarization (SIP) response of biodegraded oil in porous media, *Geophysical Journal International*, 196 (2), 804-817.
- 12- Atekwana, E. A., F. M. Mewafy, **G. Abdel Aal**, D. D. Werkema Jr., A. Revil, and L. D. Slater (2014), High-resolution magnetic susceptibility measurements for investigating magnetic mineral formation during microbial mediated iron reduction, *J. Geophys. Res. Biogeosci.*, 119, doi:10.1002/2013JG002414.
- 13- Bakheit, A.A., **Abdel Aal, G.Z.**, El-Haddad, A.E. and Ibrahim, M.A. (2014) Subsurface Tectonic Pattern and Basement Topography as Interpreted from Aeromagnetic Data to the South of El Dakhla Region, Western Desert, Egypt. *Arabian Journal of Geosciences*, 7 (6), 2165-2178.
- 14- Haby S. Mohamed & Mahmoud M. Senosy and **Gamal Z. Abdel Aal**, (2014), Upgrading of the inverse slope method for quantitative interpretation of earth resistivity measurements, *Arabian Journal of Geosciences*, 7 (10), 4059-4077.
- 15- Mewafy, F.M., D.D. Werkema, E.A. Atekwana, L.D. Slater, **G.Z. Abdel Aal**, A. Revil, and D. Ntarlagiannis (2013), Evidence that biometallic mineral precipitation enhances the complex conductivity response at a hydrocarbon contaminated site, *J. Appl. Geophys.* 98 113–123.
- 16- Mewafy, F. M., D. D. Werkema, E. A. Atekwana, L. D. Slater, **G. Z. Abdel Aal**, A. Revil, and D. Ntarlagiannis (2013), Evidence that bio-metallic mineral precipitation enhances the complex conductivity response at a hydrocarbon contaminated site, *J. Appl. Geophys.*, 98, 113–123.
- 17- **Abdel Aal, G.**, E. A. Atekwana, and E.A. Atekwana (2010) Effect of bioclogging in porous media on complex conductivity signatures, *Journal of Geophysical Research*, *J. Geophys.*

- Res., Vol (115), G00G07, doi:10.1029/2009JG001159.
- 18- **Abdel Aal, G.**, E. A. Atekwana, S. Rossbach, and D.D. Werkema (2010) Sensitivity of Geoelectrical Measurements to the Presence of Bacteria in Porous Media, *Journal of Geophysical Research, J. Geophys. Res.*, Vol. (115), G03017, doi:10.1029/2009JG001279.
  - 19- **Abdel Aal G.Z.**, E. A. Atekwana, S. Radzikowski, S. Rossbach (2009), Effect of bacterial adsorption on low frequency electrical properties of clean quartz sands and iron-oxide coated sands, *Geophys. Res. Lett.*, 36, L04403, doi:10.1029/2008GL036196.
  - 20- **Gamal Z. Abdel Aal**, Ahmed M. Ismail and Estella A. Atekwana (2008): Inuked polarization measurements of microbial cells in porous media and in aqueous solutions, *Egypt. J. Appl. Geophys.*, Vol. 7 ( 2), 171-186.
  - 21- Ahmed Ismail, **Gamal Abdel Aal**, Neil Anderson and Ayman Taha (2008): Resistivity and GPR investigations surrounding the Karnak Temple Complex in Luxor, Egypt, *Egypt. J. Appl. Geophys.*, Vol. 7 ( 2), 187-198.
  - 22- **Abdel Aal, G.Z.**, Slater, L.D., and Atekwana, E.A., 2006, Induced-polarization measurements on unconsolidated sediments from a site of active hydrocarbon biodegradation, *Geophysics* 71, 1-13.
  - 23- **Abdel Aal, G.Z.**, Atekwana, E.A., Slater, L.D., Atekwana, E.A., 2004, Effects of microbial processes on electrolytic and interfacial electrical properties of unconsolidated sediments, *Geophys. Res. Lett.*, 31 (12), L12505, doi:10.1029/2004GL020030.
  - 24- Atekwana, E.A., Sauck, W.A., **Abdel Aal, G.Z.**, and Werkema, D.D., 2002, Geophysical investigation of vadose zone conductivity anomalies at a hydrocarbon contaminated site: Implication for the assessment of intrinsic bioremediation, *J. Environ. Eng. Geophys.*, 7 (3), 102-111.

### **INTERNATIONAL CONFERENCES**

1. **Gamal Abdelaal**, Mahmoud Senosy, Reem Husien, (2020), Electrical Resistivity Measurements using Non-Destructive Electrodes: A Significant Contributions to the Applications of Electrical Resistivity in Near Surface Geophysics, 13<sup>th</sup> International Geological Conference, 3-5 March, Jeddah, Saudi Arabia.
2. Mahmoud M. Abdelmoneam and **Gamal Z. AbdelAal**, (2019), Exploring the Subsurface Basement Depth and Tectonic Pattern using Aeromagnetic Data at Assiut Area, Egypt, 3-5 February, Sohag University, Egypt.
3. Safaa K. Abbas, **Gamal Z. AbdelAal**, AbdelBaset Abudeif and Mohammed Hassoup, (2019), High Resolution Magnetic Survey of the Area Surrounding the Osirion at Abydos Archaeological Site, Sohag, Egypt, 3-5 February, Sohag University, Egypt.
4. CL Rosier, **GZ Abdel Aal**, A Price, S Sharma, EA Atekwana, M Patrauchan, (2018), Assessing the potential of spectral induced polarization to detect in situ changes in biofilm development, AGUFM 2018, NS13C-0617
5. Reem H. Sayed and **Gamal Z. Abdel Aal**, (2017), Electrical Resistivity Measurements Using Non-Destructive Electrodes. The 9<sup>th</sup> International Conference on the Geology of Africa, 24-26 November, Assiut University, Assiut, Egypt.

6. Reem H. Sayed, **Gamal Z. Abdel Aal**, Mohamed O. Ibrahim, Hassan A. Soliman, Anna A. Klochko and Dmitry Shishkov (2015), Exploring the Egyptian Alabaster at the Western Eocene Plateau of Assiut City, Egypt, using ground penetrating radar, International Conference of Engineering Geophysics, 15-18 November, United Arab Emirates University Al Ain, United Arab Emirates.
7. **Gamal Z Abdel Aal**, Estella E Atekwana and Dale Werkema Jr. (2015), Sensing the Presence and Transport of Engineered Nanoparticles in Saturated Porous Media using Spectral Induced Polarization (SIP) Method, The 8<sup>th</sup> International Conference on the Geology of Africa, 24-26 November, Assiut University, Assiut, Egypt.
8. D Werkema Jr, EE Atekwana, **GZA Aal**, (2015), Spectral Induced Polarization Measurements of Nanoparticles in Laboratory Column Experiments, Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP).
9. Reham S. Abd El-Rhman, **Gamal Z. AbdelAal**, Mohamed El-Ameen A. Faragallah and Mohamed H. Abdullah, (2015), Geoelectrical Measurements as a Proxy for the Biophysicochemical Properties of Soils Irrigated with Sewage Water at Assiut City, Egypt, The 8<sup>th</sup> International Conference on the Geology of Africa, 24-26 November, Assiut University, Assiut, Egypt.
10. Turick, C. E., C. E. Milliken, H. Colon-Mercado, S. Greenway, E. Atekwana, **G. Z. Abdel Aal**. (2015), Electrochemical approaches for monitoring subsurface microbial activity. Gordon Research Conference. Applied & Environmental Microbiology: Microbes that Influence, Sustain and Protect Our Planet. July 16, 2015. Mount Holyoke College, South Hadley, MA
11. Atekwana, E.A. and **Abdel Aal G.Z.** (2014), Iron biomineralization controls on geophysical signatures at hydrocarbon contaminated sites, International Conference on Environmental & Engineering Geophysics, June 20-23, 2014, Xi'an, China.
12. Atekwana, E.A., **Abdel Aal G.Z.** and Werkema, D.D. (2014), Complex Conductivity Measurements of Silver Nanoparticles in Unsaturated Porous Media, 20th European Meeting of Environmental and Engineering Geophysics, Athens, Greece, 14-18 September 2014.
13. Atekwana, E.A., **G.Z., Abdel Aal**, and A. Revil (2015), Integrated SIP and magnetic susceptibility measurements and model development of disseminated iron minerals, Society of Exploration Geophysics Near-Surface Asia Pacific Conference, Waikoloa, Hawaii, July 7-10, 2015. INVITED
14. Werkema, D.D., E. A. Atekwana and **G.Z. Abdel Aal**. (2015), Spectral induced polarization (SIP) measurements of nanoparticles in laboratory column experiments, Symposium on the Application of Geophysics to Environmental and Engineering Problems SAGEEP 2015, Austin, Texas USA March 22-26, 2015.
15. Beaver, C. L., Williams, A. E., Atekwana, E. A., **Abdel Aal, G.**, Mewafy, F. M., Slater, L. D., and Rossbach, S. (2014), Bioremediation of Crude Oil Spills Impacts Microbial Communities and the Magnetic Susceptibility of Sediments, Michigan Branch of the American Society of Microbiology Fall Meeting, Grand Rapids, Michigan, September, 2014.
16. **Abdel Aal, G.Z.** and E. A Atekwana (2013), Complex conductivity and magnetic susceptibility signature of common iron mineral phases in porous media, Symposium on

- the Application of Geophysics to Environmental and Engineering Problems, (SAGEEP'13) March 17-20, 2013 Denver Colorado.
17. Beaver, C., S. Rossbach, E. Atekwana, E. Atekwana, F. Mewafy, **G. Abdel Aal**, L. Slater, D. Ntarlagiannis, and A. Revil (2013), Microbial Communities within Zones of Elevated Magnetic Susceptibilities, Batelle's Second International Bioremediation and Sustainable Environmental Technologies Symposium, Jacksonville, FL, 10-13 June.
  18. Atekwana, E.A., Mewafy F., **Abdel Aal, G. Z.**, Atekwana, E.A., Beaver, C., Rossbach, S., Slater, L., Ntarlagiannis, D., Revil, A., and Werkema, D. (2013), Biogeochemical controls on magnetic susceptibility variations across a hydrocarbon contaminated site. Symposium on the Application of Geophysics to Environmental and Engineering Problems, (SAGEEP'13) March 17-20, 2013 Denver Colorado.
  19. **Abdel Aal, G.Z.** and E. A Atekwana (2013), Investigating the Electrical Response of Crude Oil state (fresh & degraded) in Porous Media using Complex Conductivity Measurements, Batelle's Second International Bioremediation and Sustainable Environmental Technologies Symposium, Jacksonville, FL, 10-13 June.
  20. Ramey, D., **G. Abdel Aal**, and E.A. Atekwana (2013), The spectral induced polarization (SIP) response of nanoparticles in partially saturated environment, Geological Society of America Abstracts with Programs. Vol. 45, No. 7, p.553.
  21. Ford B, Atekwana E, **Abdel Aal G** & Atekwana E (2013), Geophysical evidence for iron mineral transformation in a petroleum contaminated aquifer, Mineralogical Magazine, 77(5) 1100.
  22. Atekwana, E.A., **G.Z. Abdel Aal**, S. A. Sarkisova, M. Patrauchan. Investigating the Complex Conductivity Response of Different Biofilm Components, Abstract NS24A-03 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
  23. **Abdel Aal, G.Z.**, E. A. Atekwana, D.D. Werkema. On the Sensitivity of SIP to the Presence and Transport of Nanoparticles in Saturated Porous Media, Abstract H31J-06 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
  24. Beaver, C. L., A. Williams, S. Rossbach, E. Atekwana, **G. Abdel Aal**, F. Mewafy, and L. Slater. Magnetic Susceptibility and Microbial Communities in Hydrocarbon-Contaminated Sediments. Second Annual Midwest Geobiology Symposium, Indianapolis, September 28, 2013.
  25. Williams, A., C. Beaver, S. Rossbach, E. Atekwana, **G. Abdel Aal**, F. Mewafy and Lee Slater. Microbial 16S rRNA Gene Clone Libraries from Hydrocarbon Contaminated Sediments. Second Annual Midwest Geobiology Symposium, Indianapolis, September 28, 2013.
  26. Williams, A., C. Beaver, S. Rossbach, E. Atekwana, **G. Abdel Aal**, F. Mewafy and Lee Slater. Microbial 16S rRNA Gene Clone Libraries from Hydrocarbon Contaminated Sediments with Elevated Magnetic Susceptibility Measurements. Michigan Branch of the American Society for Microbiology Fall Meeting, Bay City, MI, October 18-19, 2013.
  27. Beaver, C. L., A. Williams, S. Rossbach, E. Atekwana, **G. Abdel Aal**, F. Mefawy, and L. Slater (2013), Microbial Communities Influence Magnetic Susceptibility in Hydrocarbon-Contaminated Sediments. Michigan Branch of the American Society for Microbiology Fall Meeting, Bay City, MI, October 18-19, 2013.
  28. **Abdel Aal, G.Z.** and E. A. Atekwana, (2012) Investigating the Effect of Saturation and

- Wettability on Spectral Induced Polarization of Biodegraded Oil-Bearing Sand. AGU Fall Meeting, 7-12 December, San Francisco, CA.
29. **Abdel Aal G.Z.**, and Atekwana E.A., 2012, investigating the effect of saturation and wettability on spectral induced polarization of biodegraded oil in porous media. Abstract H43E-1420 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
  30. Brown I., Atekwana E.A., **Abdel Aal G.Z.**, Atekwana E.A., Sarkisova S., and Patrauchan M., 2012, Understanding Alginate Gel Development for Bioclogging and Biogeophysical Experiments. Abstract B23B-0451 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
  31. Farag Mewafy, Dale Werkema, **Gamal Abdel Aal**, Estella Atekwana, Dimitrios Ntarlagiannis, Lee Slater, Andre Revil, and Schaun Smith (2012), Investigating the Spectral Induced Polarization of a Crude Oil Spill Site Undergoing Intrinsic Bioremediation. Proc. Sym. on the Application of Geophysics to Engineering and Environmental Problems, March 25-29, Tuscon, AZ
  32. Estella A. Atekwana, **Gamal Z. Abdel Aal**, and Eliot A. Atekwana, (2010), Investigating the Effect of Bioclogging on Electrical and Flow and Transport Properties of Porous Media, Proc. Sym. on the Application of Geophysics to Engineering and Environmental Problems, April 11-15, Keystone, Colorado.
  33. Dalton Hawkins, Matt McGuire, **Gamal Z. Abdel Aal**, Estella A. Atekwana, and Dale D. Werkema, (2010), Laboratory Assessment of Nano-Silver Transport in Sand Columns Using Complex Conductivity Measurements, Proc. Sym. on the Application of Geophysics to Engineering and Environmental Problems, April 11-15, Keystone, Colorado.
  34. Atekwana, E.A., Corter, D., **Abdel Aal, G.Z.**, Atekwana, E.A., and Elias, D. 2009, Understanding Geophysical Signatures of Bacterial Nanowires, 4 th Annual DOE-ERSP PI Meeting, Landsdowne, VA, April 20-23, 2009.
  35. **Abdel Aal, G.Z.**, Atekwana, E.A., and Atekwana, E.A. (2009) Investigating Changes in Flow and Transport Properties due to Bio-clogging of Porous Media from Complex Conductivity Measurements, Eos Trans. AGU, 90(22), Jt. Assem. Suppl., Abstract H13A-01.
  36. **Abdel Aal, G. Z.**, E. Atekwana, D. Elias, and Y. Gorby, 2008, Geophysical Signatures of Bacterial Nanowires, Department of Energy, ERSP- PI Meeting, Washington D.C.
  37. **Abdel Aal, G.Z.**, E.A. Atekwana; E. A. Atekwana; S. Rossbach, S. Radzikowski, 2008, Electrical Properties of Bacteria in Sand Columns: Live vs. Dead Cells, AGU Chapman Conference on Biogeophysics, October 13-16, 2008, Portland Maine.
  38. Joyce, R., Che-Alota, V., Atekwana, E., Atekwana, E., Werkema, D., Rossbach, S., **Abdel Aal, G.**, Davis, C., and Nolan, J., 2008, Temporal geophysical investigations of the FT-2-plume at the Wurtsmith Air Force Base, Oscoda, Michigan, Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP'08) April 8-11, Philadelphia, PA, 242-254.
  39. **Gamal Z. Abdel Aal** (2006): Geophysical characterization of a superfund site at the New Haven City, Missouri, USA, Proc. The Fourth International Symposium on Geophysics, Tanta, Egypt, 296-306.
  40. Moidaki, M., Heeszel, D., Ahmad, K.M., Chasten, L.E., Gallagher, B., Wheaton, D., **Abdel Aal, G. Z.**, Anderson, N.L., and Atekwana, E.A., 2006, Investigating dam seepage using

- geophysical methods: Providing hands-on geophysical experience to geological sciences & engineering students, Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP'06) April 2-6 Bellevue, WA, 298-307.
41. **Abdel Aal, G. Z.**, Davis, C. A., Atekwana, E. A., 2006, Effect of microbial metabolic byproducts on electrical properties of unconsolidated sediments, Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Denver, Colorado. April 2-6, Seattle, Washington, 1587-1595.
  42. **Abdel Aal, G. Z.**, Atekwana, E. A., Slater, L. D., Atekwana, E. A., 2004, Effect of different phases of diesel biodegradation on low frequency electrical properties of unconsolidated sediments, Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Colorado Springs, Colorado, 386-395.
  43. Davis, C. A., Euler, G. G., Buccellato, A. D., D'Alessandro, F. G., Dezelic, V. I., Vanvegthen, T. W., **Abdel Aal, G. Z.**, and Atekwana, E. A., 2004, Subsurface characterization of a superfund site, New Haven, Missouri, using geophysical techniques, Geological Society of America Abstracts with Programs, Vol. 36, No. 3, p. 13.
  44. **Abdel Aal, G. Z.**, Atekwana, E. A., Slater, L. D., and Ulrich, C., 2003, "Induced polarization (IP) measurements of soils from an aged hydrocarbon contaminated site", Proc. Sym. on the Application of Geophysics to Engineering and Environmental Problems, April 6-10, San Antonio, Texas 190-202.
  45. Euler, G. G., Burton, M.E., Collins, A. J., Gregg, N. M., Barklage, M.E., **Abdel Aal, G.Z.**, KIM, W., and Atekwana, E.A., Geophysical investigation of a superfund site in New Haven, Missouri, Geological Society of America South Central and Southeastern Joint Annual Meeting, March 12-14, 2003, Memphis, TN.
  46. **Abdel Aal, G.Z.**, Atekwana, E.A., Slater, L.D. and Atekwana, E.A, 2003, Effect of hydrocarbon biodegradation on the low-frequency electrical properties of unconsolidated sediments: Trans. AGU, 84(46), Fall Meet. Suppl., Abstract H12H-01.
  47. **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 third international conference on the application of geophysical methodologies and NDT to transportation facilities and infrastructure, Dec. 8-12 2003, Orlando Florida, p. 1-11.
  48. **Abdel Aal G. Z.**, Werkema, Jr., D. D., and Sauck, W .A., and Atekwana, E.A., 2001, Geophysical investigation of vadose zone conductivity anomalies at a former refinery site, Kalamazoo, MI., Symposium on the Application of Geophysics to Environmental and Engineering Problems, (SAGEEP'01), March 4-7, Denver, CO, 9pp.
  49. Riad, S., Philobos, E. R., Senousy, M. M., Soliman, M. A., Fayek, H., Hassan M., **Abdel Aal, G. Z.**, 1997, Geotechnical studies in El-Salam new settlement, Kharga Town, New Valley, Western Desert, Egypt, 3rd Architec. Conf., Fac. Of Eng., Assiut Univ., Assiut, Egypt, 12-27.

## **AWARDS**

- 1- **Best Paper Award**--Reem H. Sayed, **Gamal Z. Abdel Aal**, Mohamed O. Ibrahim, Hassan A.



- Soliman, Anna A. Klochko and Dmitry Shishkov (2015), Exploring the Egyptian Alabaster at the Western Eocene Plateau of Assiut City, Egypt, using ground penetrating radar, International Conference of Engineering Geophysics, 15-18 November, United Arab Emirates University Al Ain, United Arab Emirates.
- 2- **Best Paper:** Batelle's Second International Bioremediation and Sustainable Environmental Technologies Symposium, Jacksonville, FL, 10-13 June, Beaver\*, C., S. Rossbach, E. Atekwana, E. Atekwana, F. Mewafy, **G. Abdel Aal**, L. Slater, D. Ntarlagiannis, and A. Revil (2013), "*Microbial Communities within Zones of Elevated Magnetic Susceptibilities*".
  - 3- **Best Paper:** Symposium on the Application of Geophysics to Environmental and Engineering Problems (SAGEEP'13), March 17-20, 2013 Denver Colorado. Atekwana, E.A., Mewafy F., Abdel Aal, **G. Z., Atekwana**, E.A., Beaver, C., Rossbach, S., Slater, L., Ntarlagiannis, D., Revil, A., and Werkema, D. (2013). Biogeochemical controls on magnetic susceptibility variations across a hydrocarbon contaminated site. Paper invited and presented at the European Association of Geoscientists & Engineers-Near Surface, Bochum Germany Sept 9-11, 2013.
  - 4- **Best Paper Award--** Estella A. Atekwana, **Gamal Z. Abdel Aal**, and Eliot A. Atekwana, (2010), Investigating the Effect of Bioclogging on Electrical and Flow and Transport Properties of Porous Media, Proc. Sym. on the Application of Geophysics to Engineering and Environmental Problems, April 11-15, Keystone, Colorado.
  - 5- **Best paper** of the year 2006 – Society of Exploration Geophysicists (SEG), **Abdel Aal, G. Z.**, Slater, L. D., and Atekwana, E. A., 2006, Induced-polarization measurements on unconsolidated sediments from a site of active hydrocarbon biodegradation, *Geophysics* 71, 1-13.
  - 6- **Best Poster Award** "Geophysical investigation of a superfund site in New Haven, Missouri". Geological Society of America South Central and Southeastern Joint Annual Meeting, March 12-14, 2003.

## **COLLABORATORS AND OTHER AFFILIATIONS**

Estella Atekwana (Oklahoma State University, USA), Eliot Atekwana (Oklahoma State University, USA), Lee Slater (Rutgers University, USA), Silvia Rossbach (Western Michigan University, USA), Willian Sauck (Western Michigan University, USA), A. Revil (Colorado School of Mines), Dale Werkema (Environmental Protection Agency, USA), Mahmoud Senosy (Assiut University, Egypt), Mostafa Yousef (Assiut University, Egypt), Samir Riad (Assiut University, Egypt).

Graduate Advisor – **Prof. Dr. Estella Atekwana – Oklahoma State University, USA**

## **CURRENT AND PENDING SUPPORT**

1. **"Archaeogeophysical investigation of the area surrounding the Osirion at Abydos Archaeological Site, Sohag Governorate, Egypt"** National Academy of Science – Egypt, 1,955,000 LE, 17/08/2020-17/08/2022.
2. **"Long-term, In-situ Monitoring for Subsurface Contaminant Stability"** National Science Foundation-Savannah River National Lab: \$150,000, 03/1/13-2/28/15
3. **"Collaborative Research: Developing Empirical Relationships between Bio-induced Geotechnical and Biogeophysical Property Changes "** National Science Foundation: \$298,772.00, 7/1/13-6/30/16

## **THESIS ADVISOR AND POSTGRADUATE-SCHOLAR**

Said ElKelani (PhD), Ahmed Abdel Fatah (PhD), Atef Hana (PhD), Rashaed Ferwiz (PhD), Reham Sayed AbdelRahman (MS), Hapy Salah-Eldin (MS), Mohamed Abd-Elsabour (MS), Mostafa Mahmoud (MS), Osama Redwan (MS), Mona Salah (MS), Mona Mahmoud (MS), Alaa Ibrahim (MS), Safaa Mohamed (MS), Mohamed Ahmed (MS), Mena Sameh (MS), Mostafa Iraqi (MS) and Nada Mohamed (MS).

Total number of graduate students advised – 17

Total number of postdoctoral fellows advised - 0

## **HONORS**

- Faculty advisor of Assiut University Geophysical Society (AUGS), Egypt which is an official chapter of SEG society (2007-to date).
- Recognized by the council of graduate students as an outstanding graduate student teacher of the Geophysics Department, University of Missouri-Rolla, for the academic year 2003 - 2004.
- President of African Student Association at University of Missouri-Rolla, Rolla, MO, USA, 2002
- B.SC. with honor degree, Assiut University, Assiut, Egypt, 1991

## **PROFESSIONAL ORGANIZATIONS**

- American Geophysical Union (AGU, USA)
- Society of Exploration Geophysicists (SEG, USA)
- Environmental and Engineering Geophysical Society (EEGS, USA)
- Egyptian Association of Scientific Professions
- Geological Society of Egypt (GSE)
- Egyptian Geophysical Society
- Egyptian Petrophysical Society
- Club of Earth & Space Sciences, Egypt

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