

Andrew B. Katumwehe PhD

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A-EDUCATION AND PROFESSIONAL CERTIFICATIONS

Ph.D. in Geology, 2016, Boone Pickens School of Geology, Oklahoma State University

M.S in Geophysics 2000. ITC-Delft the Netherlands

B.S. (Honors) in Geology, 1995 Geology Department, Makerere University-Kampala.

Dissertation

Title: The Role of Pre-existing Precambrian Structures in Rift Evolution, Propagation, and Termination. The Albertine-Rhino Graben East Africa.

Advisor:

Dr. Estella Atekwana

Co-Advisor:

Dr. Mohamed Abdelsalam

B- PROFESSIONAL EXPERIENCE:

Professional Experience:

1. **Associate Professor:** Kimbell School of Geosciences, Robert L. Bolin Graduate School of Petroleum Geology, Midwestern State University (March 2023-Todate).
2. **Assistant Professor:** Kimbell School of Geosciences, Robert L. Bolin Graduate School of Petroleum Geology, Midwestern State University (Aug 2018-Feb 2023).
3. **Visiting Assistant Professor** at the Boone Pickens School of Geology, Oklahoma State University (Aug 2017-Aug 2018).
4. **Postdoctoral Research Scholar:** Boone Pickens School of Geology, Oklahoma State University (2016-2017).
5. **Graduate Research Assistant:** Boone Pickens School of Geology, Oklahoma State University (2011-2016).
6. **Chief Geophysicist:** Directorate of Geological Surveys and Mines under the Ministry of Energy and Mineral Development, Uganda (2008-2011).
7. **Senior Geophysicist** Manager at the Uganda Seismological National Data Centre (NDC) under the Ministry of Energy and Mineral Development, Uganda (2008-2011).
8. **Senior Geophysicist** at the Directorate of Geological Surveys and Mines under the Ministry of Energy and Mineral Development, Uganda (2005-2007).
9. **Geophysicist** at the Directorate of Geological Surveys and Mines under the Ministry of Energy and Mineral Development, Uganda (2000-2004).

10. **Geologist** at the Directorate of Geological Surveys and Mines under the Ministry of Energy and Mineral Development, Uganda (1997-1999).

C- TEACHING AND RESPONSIBILITIES

1- Midwestern State University

Spring 2023

GEOS 4844 Environmental Geophysics; 3 Students

GEOS 1134 Physical Geology; 44 Non-Geoscience majors

GEOS 6001 Graduate Seminar in Geosciences 10 Graduate students

Advising: 3 Graduate students and members of 4 Thesis committees

Fall 2022

GEOS 5853 Electric and Electromagnetic Methods; 6 Graduate students

GEOS 1134 Physical Geology; 7 Geoscience majors

GEOS 3533 Solid Earth and Exploration Geophysics 4 Undergraduate students

Advising: 3 Graduate students and members of 4 Thesis committees

Spring 2022

GEOS 1134: Physical Geology: 78 Undergraduate geology Students; 4 lab section

GEOS 3533: Structural Geology 15 Students 1 lab section

GEOS 4001: Undergraduate Seminar in Geosciences

GEOS 4913: Independent study 3students

Fall2021

GEOS 1134: Physical Geology: 10 Undergraduate geology Students; 1 lab section

GEOS 3533: Exploration Geophysics 4 Students 1 lab section

GEOS 4913: Independent study 3students

GEOS5863-101 Seismic Interpretation 10 students 1 Lab section

GEOS5082- Grad Seminar in Geosciences 10 Graduate students

Spring 2021

GEOS 1134: Physical Geology: 82 Undergraduate geology Students; 3 lab section

GEOS 3533: Environmental Geophysics 4 Students 1 lab section

GEOS 6001: Graduate Seminar

GEOS 4913: Independent study 3students

Advising: 3 Graduate students and member of 4Thesis committees

Fall 2020

GEOS 1134: Physical Geology: 126 Undergraduate geology Students; 4 lab section

GEOS 3533: Exploration Geophysics 14 Students 1 lab section

GEOS 5863: Seismic Interpretation 6 Students 1 lab section

GEOS 4001: Undergraduate Geoscience seminar

GEOS 4913: Independent Study 2 students

Advising: 1 Graduate student and member of 4Thesis committees

Spring 2020

GEOS 1134: Physical Geology: 92 Undergraduate geology Students; 4 lab section

GEOS 3434: Structural Geology 14 Students 1 lab section

GEOS 4913: Independent study 1 student (Well analysis in the Albertine graben)

Advising: Graduate student and member of 4 Thesis committees

Fall 2019

GEOS 1134: Physical Geology: 126 Undergraduate geology Students; 4 lab section

GEOS 3533: Exploration Geophysics 14 Students 1 lab section

GEOS 5863: Seismic Interpretation 6 Students 1 lab section

GEOS 4001: Undergraduate Geoscience seminar

GEOS 4913: Independent Study 2 students (K.T. Boundary and groundwater exploration)

Advising: 1 Graduate student and member of 3 Thesis committees

Spring 2019:

GEOS 1134: Physical Geology: 126 Undergraduate geology Students; 4 lab section

GEOS 5082: Special Course: 10 Graduate geoscience students

GEOS 4912: Independent study: 3 undergraduate students

Advising: 1 Graduate student

Fall 2018: 10 Undergraduate geology and graduate Students; 1 lab section

GEOS 3533: Solid Earth and exploration geophysics: a lecture-based overview of solid Earth, its properties, and how we use those properties to understand geological processes using geophysical tools. This course is focused on methods and approaches that are appropriate for shallow targets.

Fall 2018: 6 Undergraduate geology major Students; 1 lab section

GEOS 1134 Physical Geology: This course is a lecture-based overview of the Earth, its mineral and rock components, and the variety of physical processes, both surface and subsurface that have operated over the long history of Earth. The topics include the various components of the Earth like minerals, igneous rocks, sedimentary rocks, and metamorphic rocks and their associated mineral and energy deposits; subsurface processes such as weathering, erosion, mass movement due to water, wind, and gravity that largely shape the Earth's surface; subsurface processes that affect us such as earthquakes and volcanic activity and their associated hazards

2- Oklahoma State University

Summer 2018; 100 Undergraduate Students; 1 lab section

GEOL 1014 Geology and Human Affairs. This course will explore how Earth's processes influence humans and how humans influence the Earth. It will also look into relevant topics such as energy and material resources, beneficial and hazardous natural processes, and the planetary and biological evolution of Earth.

Spring 2018; 8 Graduate Students; 4 lab sections

GEOL 6303 Electrical and Electromagnetic Methods. Prerequisite: GEOL 4103. Principles of the different Geoelectrical methods, including electrical resistivity, induced polarization, self-potential, electromagnetic, and ground penetrating radar, will be emphasized. Geophysical instrumentation, laboratory measurements of physical properties, field procedures, and basic Interpretation and near-surface geophysical applications will be discussed. Recent advances in Geoelectrical methods and case studies will be examined by reviewing the current literature. Field trip required Lab, Lecture 3 hrs.

Spring 2018; 132 Undergraduate Students; 8 lab sections

GEOL 1114 Physical Geology. Composition and Structure of the Earth and its surface modification by internal and external processes. Mineral resources, sources of energy, and environmental aspects of geology. Recommended introductory course for science majors. Field trip required. Lab, Lecture 4 hrs Prerequisite(s): Math 1513 or higher with a grade of “C” or better; or an acceptable math placement score.

Fall 2017; 318 Undergraduate Students; 19 lab sections

GEOL 1014 Geology and Human Affairs. This course will explore how Earth’s processes influence humans and how humans influence the Earth. It will also look into relevant topics such as energy and material resources, beneficial and hazardous natural processes, and Earth's planetary and biological evolution.

Teaching Assistant

Summer 2015; Electrical methods, Field School 62 students

Summer 2014 Electrical methods, Field School 61 students

Summer 2014 Electrical methods, Field School 60 students

Summer 2012 Electrical methods, Field School 62 students

Fall 2011; Hydrogeology 48 Undergraduate Students

Fall 2012; Introduction to Geophysical Exploration 29 Undergraduate Students

Fall 2012; Introduction to Geophysical Exploration 19 Undergraduate Students

Fall 2014; Structural Geology 63 Undergraduate Students

Spring 2015 Geology and Human Affairs 32 undergraduate students

Spring 2013 Structural Geology 60 Undergraduate Students

Spring 2012 Environmental Geology 30 Undergraduate students

D- RESEARCH AND SCHOLARLY ACTIVITIES

A: Journal Publications

1. Asenath Kwagalakwe, D. Sarah Stamps, Emmanuel Njinju, Rob L. Evans, Estella Atekwana, Michael Taylor, **A. B. Katumwehe**, Peter H. Barry, Hillary Mwongyera, John Mary Kiberu, Albert Kabanda, Joan Nakajigo 2023. Investigating Melt Generation Beneath the Northern Western Branch of the East African Rift System Using 3D Geodynamic Modeling with ASPECT (*submitted -Tectonophysics*).
2. Farris Abanunay, M.G. Abdelsalam, **A. B Katumwehe** 2023: On-land Manifestation of Along-strike Transitioning of the Red Sea from Continental Rifting to Sea Floor Spreading (*Submitted -Tectonophysics*).
3. Luelseged Emishaw, **A. B Katumwehe**, K. Leseane, Z. Demissie, K. Mickus, M. Abdelsalam 2023. Evolution of continental rifts: The legacy of the East African Rift System from Gravity and Magnetic studies (*Submitted- Journal of African Earth Sciences*).
4. Md. Iftekhar Alam, A. B Katumwehe, and S.Abbasi 2023. Understanding the Behavior of Seismically Derived Poisson's Ratio in Near Surface Characterization (*Submitted- Journal of Engineering Geology and Hydrogeology*).
5. Alam, M. I., **A. Katumwehe**, and E. Atekwana (2022), Geophysical characterization of a leachate plume from a former municipal solid waste disposal site: A case study on Norman landfill, AAPG Bulletin, 106(6), 1183-1195, doi:10.1306/eg.01072120006.
6. Nyalugwe, V. N., M. G. Abdelsalam, **A. B. Katumwehe**, K. L. Mickus, and E. A. Atekwana (2020), Structure and tectonic setting of the Chingale Igneous Ring Complex, Malawi from aeromagnetic and satellite gravity data: Implication for Precambrian terranes collision and Neogene - Quaternary rifting, Journal of African Earth Sciences, 163, 103760, doi:https://doi.org/10.1016/j.jafrearsci.2020.103760.
7. Nyalugwe, V. N., M. G. Abdelsalam, E. A. Atekwana, **A.B. Katumwehe**, K. L. Mickus, J. Salima, E. A. Njinju, and L. Emishaw (2019), Lithospheric Structure Beneath the Cretaceous Chilwa Alkaline Province (CAP) in Southern Malawi and Northeastern Mozambique, Journal of Geophysical Research: Solid Earth, 124(11), 12224-12240, doi:10.1029/2019jb018430.
8. Goussi Ngalamo, J. F., D. Bisso, M. G. Abdelsalam, E. A. Atekwana, **A. B. Katumwehe**, and G. E. Ekodeck., 2017. Geophysical imaging of Metacratonization in the Northern edge of the Congo Craton in Cameroon, Journal of African Earth Sciences, 129 (Supplement C), 94-107.
9. **Katumwehe, A.B.**, Abdelsalam, M.G., Atekwana, E.A., 2015. The role of pre-existing Precambrian structures in rift evolution: The Albertine and Rhino grabens, Uganda. Tectonophysics 646, 117-129.

10. **Katumwehe, A.B.**, Abdelsalam, M.G., Atekwana, E.A., Laó-Dávila, D.A., 2015. Katumwehe, A. B., M. G. Abdelsalam, E. A. Atekwana, and D. A. Laó-Dávila (2016), Extent, kinematics and tectonic origin of the Precambrian Aswa Shear Zone in eastern Africa, *Gondwana Research*, 34 (Supplement C), 241-253,
11. Abdelsalam, Mohamed. **Katumwehe, A.B.**, Atekwana, E.A., Alan K LePera, Mercy Achang. 2016. The Paleoproterozoic Singo granite in south-central Uganda was revealed as a nested igneous ring complex using geophysical data, *Journal of African Earth Sciences*, 116 (Supplement C), 198-212.
12. Nyalugwe Victor; **Katumwehe A.B** Mohamed G. Abdelsalam and Estella Atekwana 2019. Lithospheric Structure beneath the Mesozoic Chilwa Alkaline Province in Southern Malawi and Northeastern Mozambique. Geological Society of America (GSA). Submitted to *Journal of African Earth Sciences*.
13. **Katumwehe, A.B.**, Atekwana, E.A., Abdelsalam, M.G., Kevin Mickus., 2018. Thermal Structure and crustal thickness beneath the Albertine Graben: Observations from airborne, satellite gravity, and borehole data (submitted to *Geophysics Journal International*).
14. **Katumwehe, A.B.**, Tadesse B Alemu., Atekwana, E.A., Abdelsalam, M.G. Integrated Petroleum Analysis for the Albertine Graben in East Africa (To be submitted to *Basin research*).
15. Iftekhar Alam M.D and **Katumwehe A.B.**, 2018.Void detection using a combined V–P, VS, and Electrical Resistivity (Submitted to Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP)).

B: Conference Abstracts Presentations at National Meetings

1. Hillary Mwongyera, Michael H. Taylor, Daniel D. Mongovin, Estella Atekwana, Elliot Atekwana, Folarin Kolawole, Andrew B. Katumwehe, Suzan Van der Lee5, D. Sarah Stamps, Rob Evans, Asenath Kwagalakwe, Albert Kabanda, Simon Echegu, John Mary Kiberu, Rob Evans, Fred Tugume 2023. Magnitude and Rate of Rift Flank Uplift along the Nkusi River, Albertine Rift Basin, Uganda. Submitted to AGU Fall Meeting in San Francisco, California, Dec 2023. <https://agu.confex.com/agu/fm23/prelim.cgi/Paper/1380366>.
2. Kathryn Brown, Kashif Mahmud, Brian Vauter, **Andrew B. Katumwehe**, Jonathan Price 2023. Morphological and Spatial Analysis of Cave LiDAR Remote Sensing to Identify Karst Water Infiltration Pathways. Submitted to AGU Fall meeting in San Francisco California. <https://agu.confex.com/agu/fm23/prelim.cgi/Paper/1298231>.
3. Md. Iftekhar Alama, Andrew B. Katumwehe, Ashraf Uddinc, Jake Germaind and Salman Abbasi 2023. Assessment of Gravity and Magnetic Structures of The Bengal Basin, Bangladesh. Submitted to AGU Annual meeting San Francisco California 2023. <https://agu.confex.com/agu/fm23/prelim.cgi/Paper/1444754>.

4. D. Sarah Stamps, Estella Atekwana, Eliot Atekwana, Suzan van der Lee, Michael Taylor, Andrew Katumwehe, Rob Evans, Fred Tugume, John Mary Kiberu, Stewart Fishwick, Peter H. Barry, Saemundur Halldorsson, Folarin Kolawole, Asenath Kwagalakwe, Emmanuel Njinju, Daniel Mongovin, Hillary Mwongyera, Joy Foluso, Albert Kabanda, Ben Alonzo, Joan Nakajigo, Betty Nagundi, Joseph Nyago, Lawrence Kabenge, Damiloa Ola, Patrick Boston, Justin Dean. Latest Advances of the DRIAR Project: Dry-Rifting In the Albertine-Rhino Graben, Uganda. Poster to be presented at AGU Fall meeting December 2023.
<https://agu.confex.com/agu/fm23/prelim.cgi/Paper/1272494>.
5. Albert Kabanda, Ben Alonzo, Suzan van der Lee, D. Sarah Stamps, Estella Atekwana, Joseph Nyago, Lawrence Kabenge, Fred Tugume, Stewart Fishwick, Folarin Kolawole, Rob Evans, Mike Taylor, **Andrew Katumwehe**, Eliot Atekwana, John Mary Kiberu 2023. Interferometry of Ambient Seismic Noise Recorded by DRIAR Stations in the Western Branch of the East African Rift System, Uganda. Submitted to AGU Fall Meeting in San Francisco California December 2023.
<https://agu.confex.com/agu/fm23/prelim.cgi/Paper/1308557>.
6. Joy Foluso, Eliot A. Atekwana¹, Estella A. Atekwana, Peter H. Barry, D. Sarah Stamps, Rob L. Evans, Suzan van der Lee; Michael Taylor, **Andrew B. Katumwehe**, Fred Tugume, John Mary Kiberu 2023.- 34% Enthalpy change over 51 years for hot springs along the Albertine-Rhino Graben, Uganda. Submitted to AGU annual meeting San Francisco California, December 2023.
7. Md. Iftekhar Alam, **Andrew B. Katumwehe**, Ashraf Uddinc, Jake Germaind and Salman Abbasi 2023. Geophysical Characterization of Deep Crustal Structures and Tectonic Framework of the Bengal Basin, Bangladesh Using Gravity, and Magnetic Data. Submitted to GSA Annual meeting Pittsburgh- Pennsylvania 2023.
8. Asenath Kwagalakwe, Sarah Stamps, John Naliboff, Michael Taylor, Tahiry Rajaonarison, Rob L. Evans, Estella A. Atekwana, **Andrew B. Katumwehe**, Eliot A. Atekwana, Fred Tugume, John Mary Kiberu 2023. The Role of Pre-Existing Structures in the Initiation of the Northern Western Branch of the East African Rift System submitted to AGU 2023.
<https://agu.confex.com/agu/fm23/prelim.cgi/Paper/1284259>.
9. Asenath Kwagalakwe, Sarah Stamps, Edward Isabirye, Joy Foluso, Eliot A. Atekwana, Peter H. Barry, Rob L. Evans, Mervyn Pinto, Sandeep Gupta, Kamaal Samji, Salim Janmohamed, Aakash Liyanage, Estella A. Atekwana, Michael Taylor, **Andrew B. Katumwehe**, Fred Tugume, John Mary Kiberu 2023. Fault-Controlled Geothermal Resources of Katwe-Kikorongo Volcanic Field in Uganda. Presented at the NABG Conference Sept 27 2023 Wshington.
10. D. Sarah Stamps, Estella Atekwana, Eliot Atekwana, Suzan van der Lee, Michael Taylor, **Andrew Katumwehe**, Rob Evans, Fred Tugume, John Mary Kiberu, Stewart Fishwick, Peter H. Barry, Saemundur Halldorsson, Folarin Kolawole, Asenath Kwagalakwe, Emmanuel Njinju, Daniel Mongovin, Hillary Mwongyera, Joy Foluso, Albert Kabanda, Ben Alonzo,

- Joan Nakajigo, Betty Nagundi, Joseph Nyago, Lawrence Kabenge, Damilola Ola, Patrick Boston, Justin Dean. The DRIAR Project: Dry-Rifting In the Albertine-Rhino Graben, Uganda. Poster presented at GeoPrisms Malawi Conference July 2023.
11. Albert Kabanda¹, B.Alonzo, Suzan van der Lee, Sarah Stamps, Estella Atekwana, J Nyago, Lawrence Kabenge, Fred Tugume, Stewart Fishwick, Folarin Kolawole, Rob Evans, Mike Taylor, **Andrew Katumwehe**, Eliot Atekwana, John M. Kiberu 2023. Characteristics of Ambient Seismic Noise Recorded by DRIAR Stations in the Western arm of the EARS, Uganda. Geoprisms Session Malawi July 2023
 12. Damilola Ola and Andrew Katumwehe 2022: Using seismic data to understand Rift Evolution in Magma Poor Rifts. An example of the Albertine Rift, GSA South Central Abstract. <https://gsa.confex.com/gsa/2023SC/meetingapp.cgi/TechnicalPrograms/0>.
 13. Bright Oswagua and A.B. Katumwehe 2022: Structural Modeling and Petrophysical Evaluation for Reservoir Characterization of Semliki Basin, Western Uganda, 27-8 GSA South Central. <https://gsa.confex.com/gsa/2023SC/meetingapp.cgi/Paper/385171>.
 14. Anthony Castillo, A.B Katumwehe, Mahmud Kashif, and Jonathan D Price 2022: Using Electrical Resistivity Tomography (ERT) and Light Detection and Ranging (LiDAR) to Detect Void Space in Cretaceous Formations at Natural Bridge Caverns in Comal County, TX . GSA South Central abstract. <https://gsa.confex.com/gsa/2023SC/meetingapp.cgi/Search/0?sort=FinalNumber&size=10&page=1&searchterm=Anthony%20Castillo>.
 15. Asenath Kwagalakwe, D. Sarah Stamps¹, John Naliboff, Rob L. Evans, Estella Atekwana, Emmanuel Njinju, Michael Taylor, Hillary Mwongyera, A.B. Katumwehe, Peter H. Barry, John Mary Kiberu, Albert Kabanda, Fred Tugume, Joseph Nyago, Joan Nakajigo 2023. Investigating Magma-Poor Rifting Processes along the Northern Western Branch of the East African Rift System using Geodesy and Geodynamics GAGE SAGE workshop.
 16. Damilola Ola and Andrew Katumwehe 2022: Using seismic data to understand Rift Evolution in Magma Poor Rifts. An example of the Albertine Rift, AGU Fall Meeting Abstract. <https://agu.confex.com/agu/fm22/meetingapp.cgi/Paper/1129291>.
 17. Bright Oswagua and A.B. Katumwehe 2022: Structural Modeling and Petrophysical Evaluation for Reservoir Characterization of Semliki Basin, Western Uganda, AGU Fall Meeting Abstract. <https://agu.confex.com/agu/fm22/meetingapp.cgi/Paper/1095809>.
 18. Anthony Castillo, **A.B Katumwehe**, Mahmud Kashif, and Jonathan D Price 2022: Using Electrical Resistivity Tomography (ERT) and Light Detection and Ranging (LiDAR) to Detect Void Space in Cretaceous Formations at Natural Bridge Caverns in Comal County, TX AGU Fall Meeting abstract.
 19. Patrick B. Boston, Folarin Kolawole, **A.B Katumwehe**, Estella Atekwana, Micheal Taylor, Sarah Stamps 2022: Coupling of Displacement and Basement Damage Distribution across a Border Fault Relay Zone, Toro-Bunyoro Fault, Albertine Rift. AGU Fall Meeting abstract. <https://agu.confex.com/agu/fm22/meetingapp.cgi/Paper/1194709>.

20. Hillary Mwongyera, Daniel Mongovin, Michael H. Taylor, Stamps Sarah, Atekwana Estella, Van der Lee Suzan, Atekwana Eliot, **A.B. Katumwehe**, Kolawole Folarin 2022. Neotectonics of the Lake Albert Rift Basin in the Western Branch of the East African Rift System Reveals Active Fluvial Reorganization. GSA Abstract.
21. Joy Foluso, E. Atekwana, EA Atekwana, Suzan van der Lee, M Taylor, **A.B Katumwehe**, R Evans, F Tugume, K Aanyu, S Fishwick, P Barry, S Halldorsson, F Kolawole, G Rumpker, A. Kwagalakwe, D. Mongovin, H. Mwongyera, I Eufrásio de Oliveira, E Islam, R Birungi, E Njinju, 202: Hydrogeochemistry and Geothermometry of the Hot Springs Along the Magma-poor Western branch of the East African Rift System, AGU Fall Meeting abstract.
22. Stamps S, E. Atekwana, EA Atekwana, Suzan van der Lee, M Taylor, A.B Katumwehe, R Evans, F Tugume, K Aanyu, S Fishwick , P Barry, S Halldorsson, F Kolawole, G Rumpker , A. Kwagalakwe, D. Mongovin, H. Mwongyera, I Eufrásio de Oliveira, E Islam, R Birungi, E Njinju, 2022.Dry Rifting in the Albertine and Rhine Graben Uganda American Geophysical Union 849492.
23. Iftekhar Alam, Asharaf Uddin, Md S Mustaque, and **A.B. Katumwehe 2022**. Gravity and Compositional study for reconstruction of late Paleozoic Intra-Cratonic Gondwanan basins of Northwest Bengal Basin, Bangladesh Geological Society of America Abstracts with Programs. Vol 53, No. 6, 2021, doi: 10.1130/abs/2021AM-367801. 152-7 –Booth 20
24. Stamps S, E. Atekwana, EA Atekwana, Suzan van der Lee, M Taylor, **A.B Katumwehe**, R Evans, F Tugume, K Aanyu, S Fishwick , P Barry, S Halldorsson, F Kolawole, G Rumpker , A. Kwagalakwe, D. Mongovin, H. Mwongyera, I Eufrásio de Oliveira, E Islam, R Birungi, E Njinju, 2021.Dry Rifting in the Albertine and Rhine Graben Uganda American Geophysical Union 849492.
25. D. Mongovin¹, H. Mwongyera, M. Taylor¹, S. Stamps, E. Atekwana, E. Atekwana, Suzan van der Lee, **A.B. Katumwehe**, R. Evans, F Kolawole, F. Tugume, 2021. Early-Stage Segmentation of Continental Rifts and Strain Accommodation Along Neotectonics of the Rift-Bounding Toro -Bunyoro Faults, Albertine Graben, (Uganda), Western Branch of the East African Rift System. American Geophysical Union T945865.
26. Zelalem Demissiel, Bekele Abebe, Liang Xue, and **A.B. Katumwehe** 2020. Multi-temporal interferometric approaches to detect surface deformation in Dessie basin, Ethiopia. AGU Fall Meeting Abstracts. Vol. 2020. 2020.
27. Nyalugwe, V. N., M. G. Abdelsalam, **A. B. Katumwehe**, K. L. Mickus, and E. A. Atekwana (2020). Structure and tectonic setting of the Chingale Igneous Ring Complex, Malawi. 54th Annual GSA South-Central Section Meeting 2020, doi: 10.1130/abs/2020SC-343444.
28. Iftekhar Alam, **Andrew Katumwehe**, Khumo Leseane, Fathiya Al-Hadhrami, Brooke Briand, Daniel Morse, Sam Wei, and Estella Atekwana 2020. Imaging landfill leachate plume boundaries using electrical-resistivity inversion, spontaneous potential, EM 34 and Geochemical Analysis: A case study on Norman Landfill. Presented at Society of Exploration Geophysics, <https://doi.org/10.1190/segam2018-2998496.1>.

29. Chase Brandon Franklin., **Katumwehe. A.B**, Mohamed Abdelsalam. Chase. Kafue Rift: The Forgotten Segment of the Southwestern Branch of the East African Rift ID: 310224. Geological Society of America GSA Abstract #310224 - South-Central Section - 52nd Annual Meeting – 2018.
30. Victor Nyalugwe; Mohamed G. Abdelsalam; **Katumwehe A.B**; and Estella Atekwana. Lithospheric Structure beneath the Mesozoic Chilwa Alkaline Province in Southern Malawi and Northeastern Mozambique. Geological Society of America (GSA). Abstract #310213 South-Central Section - 52nd Annual Meeting – 2018.
31. Iftekhar Alam M.D and **Katumwehe A.B**. Void detection using a combined V–P, VS, and Electrical Resistivity. Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP) 2018 being held in Nashville Tennessee, USA March 25-29.
32. **Katumwehe, A.B**, Estella Atekwana, Mohamed G. Abdelsalam, Kevin Mickus, Jeannot F. Goussi Ngalamo Thermal and Crustal Structure beneath the northern segment of the Western Branch of the East African Rift System: Constraints from Gravity and Magnetic Data Abstract ID and Title: AGU Fall Meeting, New Orleans 11-15 December 2017. Title ID 288153 Poster Final Abstract Number: T51F-0548.
33. Tadesse B. Alemu, **Katumwehe A.B**, Estella Atekwana and Mohamed Abdelsalam. Integrated Petroleum Analysis for the Albertine Graben in East Africa. American Association of Petroleum Geologists (AAPG) Annual Convention and Exhibition, Calgary, Alberta, Canada, June 22, 2016
34. **Katumwehe, A.B**, Tadesse B Alemu, Estella A Atekwana and Mohamed G Abdelsalam. Estimating heat flow and geothermal gradient from Magnetic and gravity data. An example from the Albertine graben East Africa. American Geophysical Union-Society of exploration geophysicist meeting, Potential-field and Electromagnetic Methods Applied to basin studies conference. Keystone Colorado 25-26 Aug 2015.
35. **Katumwehe A.B**, E.A. Atekwana, M.G. Abdelsalam, and D. Lao Davila (2014). Integrated analysis of airborne geophysical data to understand the extent, kinematics, and tectonic evolution of the Aswa shear zone in East Africa. Abstract T23B-4659 presented at 2014 Fall Meeting, AGU, San Francisco, Calif., 14-19 Dec.
36. **Katumwehe, Andrew B.**; Atekwana, Estella; Abdelsalam, Mohamed; Mickus, Kevin., 2015 Thermal Structure and Crustal thickness beneath the Albertine rift, Uganda from Potential Fields data. Geological Society of America Abstracts with Programs. Vol. 47, No. 1, p.7.
37. **Katumwehe, A.B**, Atekwana, E.A; Abdelsalam, M.G. Rift strain localization, transfer, segmentation, and termination: Aeromagnetic imaging of the role of pre-existing Structure in the evolution of the Albertine and Rhino grabens in Uganda and Congo, Abstract presented at Fall 2013 Geological Society of America Meeting, Denver Colorado 27-30 Oct 2013. Vol. 45, No. 7, p.822.

38. **Katumwehe, A.B.**, E.A. Atekwana; M.G. Abdelsalam Strain localization and transfer facilitated by pre-existing Precambrian structures in the Western Branch of the East African Rift System. Abstract presented, Fall 2013, Society of Exploration Geophysicists, Houston Texas 26-30 Sept 2013.
39. Achang, M., E.A. Atekwana; Abdelsalam, M.G, **Katumwehe, A.B.** The Singo granite, mineral occurrences and ring complexes Uganda, Abstract presented at Fall 2013 Geological Society of America Meeting, Denver Colorado 27-30 Oct 2013. Vol. 45, No. 7, p.536.
40. **Katumwehe, A.B.**, E.A. Atekwana, M.G. Abdelsalam, Rift strain localization, transfer, segmentation, and termination: Aeromagnetic imaging of the role of pre-existing Structure in the evolution of the Albertine and Rhino grabens in Uganda and Congo, Geological Society of America Abstracts with Programs, 45 (7) 822.
41. **Katumwehe. A. B.**, E. A. Atekwana, M.G. Abdelsalam. Extent and kinematics of Aswa Shear Zone in Uganda and South Sudan using airborne geophysical and remote sensing data, Abstract ED43E-04 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
42. **Katumwehe. A, B** E. A. Atekwana, M.G. Abdelsalam, Extent and kinematics of the Aswa Shear Zone (ASZ) in Uganda and South Sudan using airborne geophysical and remote sensing data. Abstract presented 2012, Morrison, NJ Hyatt October 25-27, 2012.
43. Reford, S., Kwan, K., Nyakaana, J., **Katumwehe, A.B.**, and Wane, O. (2009) Airborne geophysics as a tool to promote mineral investment in Africa. ASEG Extended Abstracts 2009: 20th Geophysical Conference: pp. 1-8.

Research Proposal Submissions 2018-2023

1. Surface and Subsurface Characterization of Seismogenic Faults in SW Puerto Rico: Collaborative Research with Oklahoma State University, the University of Puerto Rico, and Midwestern State University- **Submitted in 2023 amount \$72,410**
2. Dry Rifting in the Albertine –Rhino Graben (DRIAR), Uganda submitted in 2020 and Funded by NSF-**Awarded Grant 2021356 Grant amounting to \$184,066.**
3. Kansas NASA Established Program to Stimulate Competitive Research (EPSCoR) Program Seed Research Initiation (SRI) Grant: Assessing Strain Localization and distribution in Southcentral Kansas using geodetic and seismic observations submitted to NASA in 2020 - **Not Awarded. Grant amount \$12,490.**
4. Hydro-geophysical Characterization of Deep Freshwater Aquifer of Southwestern Bangladesh Submitted to Society of Exploration Geophysicists (SEG)-2021-**Not Awarded. Grant amount \$17,738.**

5. Collaborative Proposal: Geophysical Experiments of Amagmatic Rifts: Strain localization by suture-guided channelized fluids from distant plume location- Submitted to NSF in 2019-**Not Awarded. Grant amount \$187, 101.**
6. Characterizing subsurface heterogeneity in Texas Karst topography using Geophysical and hydrogeological Methods Submitted to NSF-CAREER in 2020 -**Not Awarded. Grant amount \$\$528,643**
7. Geophysical and geochemical investigation to characterize the leachate plume and its influence on freshwater resources around the Kitezi Landfill site, Kampala, Uganda. Submitted to SEG in 2018-**Not Awarded. Grant amount \$100,000.**

Ongoing Research Proposals

1. Integrated Petrophysical and Geochemical Analysis of the granitic intrusions in the Wichita Mountains - **Intramural Proposal.**
2. Remote Sensing and Morphological Analysis to Characterize Cretaceous Formations at Natural Bridge Caverns in Comal County, TX.-National Science Foundation (NSF).

Professional Involvement

Professional Organizations/Affiliations

1. Society of Exploration Geophysicists (SEG)
2. American Geophysical Union (AGU)
3. Geological Society of America (GSA)
4. American Association of Petroleum Geologists (AAPG)
5. SEG Global Association Member (GAC) Country representative for Uganda
6. Faculty Advisor Makerere University SEG Student Chapter
7. Member of the geophysics in the OSI regime of the Comprehensive Nuclear Test Ban Treaty Organization (CTBTO) under the Continuation phase techniques for Onsite inspection (OSI).
8. East Africa Rift GEOPRISMS
9. Tulsa Geological Society (TGS)
10. Global member of the Prospectors and Developers Association of Canada (PDAC)
11. Member of the Geological Society of Uganda
12. Member of the Netherlands Fellowship Alumni (Uganda Chapter)

E-SERVICE

To the University

1. **Graduator Coordinator:** Kimbell School of Geoscience Midwestern State University
2. **Presidential Committee Member** of MSU Student Enrollment and Retention Task Force 2021.
3. Advisory Committee Member for Undergraduate Research Opportunities and Summer Workshop (UGROW) at Midwestern State University.
4. Advisory Committee Member for Enhancing Undergraduate Research Endeavors and creative activities (EURECA) at Midwestern State University.
5. Served as a search committee member for new Faculty hire: Assistant Professor Sedimentary, Petrology, stratigraphy, and paleoecology 2021.

6. Served on the Environmental Geosciences 2021 search committee, tenure track Assistant Professor Position.
7. Served on the search committee for Faculty hire: visiting Assistant Professor Sedimentary, Petrology, stratigraphy, and paleoecology 2020.
8. Serve on the EURECA and UGROW advisory Committees 2019-2023
9. College Council Member of the McCoy College of Science, Mathematics, and Engineering (MCOSME)
10. Responsible for preparing the Kimbell School of Science Graduate Program assessment report from 2019-to date
11. Research and Travel Committee Member of the McCoy College of Science, mathematics, and Engineering (MCOSME) from 2022 to date.
12. July 2023, served as the Committee member for selecting the McCoy College of Engineering, Mathematics, and Science undergraduate student advisor.
13. Served as a Member of the research committee for the McCoy College of Engineering, Mathematics, and Science.

Thesis Advisor (MSU)

1. Alexis Christopher: 2020-2023: Integrating artificial intelligence and aeromagnetic data in structural synthesis for mineral exploration. A case of S.W. Uganda
2. Anthony Castillo 2020-2023: Using Electrical Resistivity Tomography (ERT) and Light Detection and Ranging (LiDAR) to Detect Void Space in Cretaceous Formations at Natural Bridge Caverns in Comal County, TX
3. Damilola Ola 2021-2024 Using seismic data to understand Rift Evolution in Magma Poor Rifts. An example of the Albertine Rift.
4. Bright Osuagwu 2022-2024: Structural Modeling and Petrophysical Evaluation for Reservoir Characterization of Semliki Basin, Western Uganda.
5. Chad Cummings 2019-2022: Tectonic Influence on the Knox Baylor Basin in Texas.
6. Jared Saucedo 2018-2020: Integrated Reservoir characterization of the Bennet Shale.

Thesis Committee Member (MSU)

1. Kathryn Brown 2022-2024: Characterization of Water Infiltration Pathways in Karst terrain using LiDAR Remote Sensing, Natural Bridge Caverns, Central Texas
2. Kasey Chreene 2020-2023: Reservoir Characterization of the Caddo Limestone, Paradise Field, Wilbarger County, Texas
3. Wiltany Rolle 2020-2023: Distribution of microplastics in Ocean Environment, New York

4. Chad A Hamilton 2019-2022 Analysis of the K-Feldspar Megacrysts of the Town Mountain Granite, Central Texas.
5. Evan Parker 2019-2022: Geospatial Analysis of Features on the Dalquest Desert Research Station, Big Bend, Texas
6. Kyle Stuckey 2021-2022: Environment of Deposition and Evaluation of a Failed Waterflood in the Pennsylvanian Morris Sandstone, Lake Coleman Field, Coleman County, Texas
7. Aaron Hillard 2019-2022: Boundary Mapping and Analysis of the Quanah variant Craterville Granite in the Wichita Mountains, Southern Oklahoma.
8. Jared Steger 2018-2023: A Study of Granophyric Growth in the Wichita Granite Group, southwest Oklahoma
9. Katherine Felderhoff 2019-2022: Reservoir Analysis of the Conley Field with Emphasis on the Chappel Formation
10. Tyler Glasscock Reservoir 2019-2023 Characterization of the Steele Hill Oil Field, Tannehill Formation
11. Meghan Schmidt 2018-2021: Evaluating the origin and nature of heterogeneities within the Cache Granite, Wichita Mountains, Oklahoma.
12. Abdul Rauf Choudhry 2018-2020: Reservoir characterization of the Sawan Block, Lower Indus Basin. Pakistan
13. Ethan Grasmick 2018-2019: Stratigraphy and Petroleum Geology of Middle Permian Strata in the Brooks Field, Irion County, Texas
14. Alexandria M. Stevenson 2018-2020: Characterizing Anomalous Granites within the Quanah Granite Pluton, Wichita Mountains, Oklahoma

Graduates- Oklahoma State University (OSU)

1. Mily Farjana 2020-2024: Role of pre-existing lithospheric structures in the Kafue Rift
2. Brandon Chase 2016-2019: Geophysical characterization of the Oklahoma Eulacogen
3. Jeannot Goussi 2016-2017. Geophysical imaging of Metacratonization of the northern edge of the Congo craton.
4. Victor Nyalugwe 2016-18: The evolution of the Malawi volcanic ring complex
5. Emmanuel Njinju 2015-2016: Lithospheric Structure beneath Malawi rift
6. Kathleen Robinson 2015-2016: Role of pre-existing Structure in rift initiation in Malawi rift
7. Kitso Matende 2014-2015 Magmatic underplating beneath the Karoo aged Luangwa rift.
8. Harding JK 2015-2015 Structural interpretation for earthquake-related structures from airborne data
9. Vincent Somwe 2014-2015 Geophysics signature for the Cement Oil seeps

10. Khumo Leseane 2013-2014: Thermal perturbations beneath the incipient Okavango rift zone.
11. Alan Le Pera 2013-2014: Structure and emplacement of the giant Okavango Dyke swarm.

Undergraduate Advising

Midwestern State University (MSU)

1. Devoir Nathalie 2023-2025
2. Kenvin Kyler 2023-2025
3. Hannah Yip 2023-2025
4. Migliozi Mary 2023-2025
5. Tameka Phillips 2023-2025
6. Patrick Boston 2019-2024
7. Mathew Koch 2019-2024
8. Desmond Williams 2019-2021
9. Oscar Salcedo 2019-2022
10. Toni Perkins 2019-2024
11. Brandi Morales 2019-2024
12. Ronado Le Rose 2019-2023
13. Chelsee Kirk 2019-2023
14. Kameron James 2029-2024
15. Marcus Baptiste 2019-2020
16. Evin Parker 2019-2020
17. Patricia Pena 2019-2020

Oklahoma State University (OSU)

1. Tiara Johnson 2014-2015
2. Courtney Hull 2014-2015
3. Erin Heilman 2016-2017
4. Evin Fetkovitch 2015-2016
5. Louis Steigerwald 2013-2014

Service to the Professional Community

1. Session Committee Member from Continental Rifts to Rifted Margins. AGU Fall Meeting in San Francisco California <https://agu.confex.com/agu/fm23/prelim.cgi/Session/189198>.
2. **Committee Member** for the American Geophysical Union (AGU) Union Award, Medal or Prize (UAMP) selection committees- AGU Africa Award for Research Excellence in Earth or Ocean Sciences.

3. **EARTHSCOPE's** Advisory Committees (“Committee Member”) is a University consortium dedicated to transforming global geophysical research and education. Its vision is an engaged society, resilient to geohazards, informed by geophysical discovery and global collaboration.
4. **Field Instructor:** Les Houston Boone Pickens School of Geology, Summer Field School in Colorado (Aug 2017-Aug 2019).
5. **Advisory Board Member:** Boone Pickens School of Geology Advisory board.
6. Reviewer for the AGU Africa Research Excellence in Earth and Ocean Science ward selection Committee for AGU- 10 nominees 2020-2024
7. Session committee AGU member December 2023. Rift to Drift session
8. Poster Session committee member T1- Discovering Earth through Multi Geophysics sensor Approach GSA South Central.
<https://gsa.confex.com/gsa/2023SC/meetingapp.cgi/TechnicalPrograms/0>.
9. Session Chair AGU 2022 Understanding Magma poor rifts
10. Session chair GSA South Central GSA 2020 conference in Fort Worth Texas
11. Reviewer for the Copernicus Organization Journal-1paper
12. Reviewer for the International Journal of Geoscience-1 paper
13. Reviewer for Geophysical Journal International-1 paper
14. Reviewer for the International Journal of Geoscience-3papers
15. Reviewer for the Journal of African Earth Science- 35 papers
16. Reviewer for the Journal of Applied Geophysics - paper

Reviewed Manuscripts

1. Reviewed 1 paper for the Journal of African Earth Science, 2015
2. Reviewed 2 papers for the Journal of African Earth Science, 2017
3. Reviewed 2 papers for the Journal of African Earth Science, 2017
4. Reviewed 4 papers for the Journal of African Earth Science, 2017
5. Reviewed 3 papers for the Journal of African Earth Science, 2018
6. Reviewed 4 papers for the Journal of African Earth Science, 2019
7. Reviewed 5 papers for the Journal of African Earth Science, 2020
8. Reviewed 4 papers for the Journal of African Earth Science, 2021
9. Reviewed 5 papers for the Journal of African Earth Science, 2022
10. Reviewed 5 papers for the Journal of African Earth Science, 2023
11. Reviewed 1 paper for the journal of Applied Geophysics, 2023

F- AWARDS AND HONORS

1. National Science Foundation (NSF) collaborative research ‘Dry Rifting in the Albertine Graben’ \$187,000 May 2020
2. Decker Dawson Graduate fellowship in Geophysics \$5,000 spring 2016.

3. Alumni Geology Graduate fellowship \$7,000 May 2016.
4. QEP Geology fellowship \$5,000 May 2015.
5. Alumni Geology Graduate fellowship \$7,000 May 2015.
6. QEP Geology fellowship \$5,000 May 2014.
7. Alumni Geology Graduate fellowship \$7,000 May 2014.
8. Graduate fellowship \$5,000 May 2013.
9. Alumni Geology Graduate fellowship \$7,000 May 2013.
10. Graduate fellowship \$5,000 May 2012.
11. Alumni Geology Graduate fellowship \$7,000 May 2011.
12. Graduate fellowship \$5,000 May 2011.
13. Ph.D. Dissertation funded by National Science Foundation August 2011-2016
14. Netherlands Nuffic Scholarship fund for a Master's Degree in exploration geophysics 1999-2000.

Technical Project Contract achievements:

1. Technical Supervision of Airborne EM Geophysical surveys in Uganda, the Surveys were flown by Fugro Airborne (Pty) Ltd, Contract period: 2006-2008.
2. Project Component Manager (Sustainable Management of Mineral Resources Project (SMMMRP) in charge of airborne geophysical surveys by Fugro Airborne Surveys, total amount funded: \$5M; project period 2006-2009.
3. Project Component Manager (Sustainable Management of Mineral Resources Project (SMMMRP) in charge of Quality Control of airborne geophysical surveys by Paterson Grant and Watson (PGW) total amount \$0.65M; contract project period 2006-2009
4. Project Component Manager (Sustainable Management of Mineral Resources Project (SMMMRP) in Interpretation of old existing and newly acquired airborne geophysical data by Swedish Geological AB total amount \$18M; contract project period 2006-2007.