

Elizabeth Menezes

GRAD STUDENT, GEOPHYSICS · DEPT. OF GEOLOGICAL SCIENCES | CIRES

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Education

University of Colorado Boulder

Boulder, Colorado

DOCTOR OF PHILOSOPHY IN GEOPHYSICS (IN PROGRESS)

Aug 2020 - Present

- Specializing in seismology and geodesy
- Remote sensing applied to induced seismicity

The University of Texas at Austin

Austin, Texas

BACHELOR OF SCIENCE IN GEOPHYSICS

Aug 2014 - May 2018

- Program through the Jackson School of Geosciences

Work Experience

U.S. Bureau of Reclamation

Denver, Colorado

SEISMIC HAZARD INTERN

May 2021 - July 2021

- Worked on an induced seismicity project associated with salinity control injection wells in Paradox Valley, CO
- Explored different proxy methods to estimate the time-averaged shear-wave velocity through 30 m below the ground surface
- Improved Vs30 models by incorporating geologic information using ARCMAP and R scripting skills
- Contributed to Probabilistic Seismic Hazard Analysis (PSHA) source inputs

Inspiring Girls Expeditions, Girls on Rock

Boulder, Colorado

SCIENCE AND ART INSTRUCTOR

Dec 2021 - Present

- Girls on Rock - a wilderness science education program for high school girls from minority and disadvantaged backgrounds
- Educated the students during a two week program on how to conduct scientific research and integrate art as a communication tool for their findings

NEST Studio for the Arts

Boulder, Colorado

CHILDREN'S BOOK WRITER

May 2021 - Present

- Granted funding by the Nature, Environment, Science & Technology Studio to further efforts in combining artistic practice and scientific research
- Currently using this funding award to write and illustrate a coloring book for middle and high school aged students that teaches techniques on how art can be a useful tool in the geosciences

Halliburton Energy Services Inc.

Stavanger, Norway

GEOSTEERING GEOSCIENTIST

Sep 2019 - Sep 2020

- Geosteering specialist, completed two geosteering courses
- Handled real-time drilling operations in order to execute all field engineering technical duties for jobs in the North Sea
- Delivered pre-well modelling, real-time interpretations, and post-well analyses to client
- Troubleshoot issues with regards to an ultra deep resistivity azimuthal Earth Star tool and inversions

Halliburton Energy Services Inc.

Houston, Texas

MEASURING WHILE DRILLING (M/LWD) FIELD ENGINEER

Sep 2018 - Aug 2019

- Tested and manually assembled tool strings for downhole data acquisition
- Provided file information from surveys such as measured depth, true vertical depth, azimuth, inclination to directional drilling team
- Delivered real time data (gamma ray/temperature logs) to customer
- Troubleshoot issues between the surface computer and downhole M/LWD tool

Denali National Park

Denali, Alaska

SCIENCE COMMUNICATION INTERN FOR U.S. DEPARTMENT OF THE INTERIOR

May 2018 - Aug 2018

- Educated children in the field on topics such as geoscience, biology, ecology and leave no trace ethics
- Created eight life sized museum exhibits for the winter visitor center using Adobe Illustrator
- Edited and designed a children's outdoor educational book: Denali for Families: A Visitor's Guide to Denali National Park and Preserve

Gilliam IP

Austin, Texas

TECHNICAL ADVISOR

Jun 2017 - May 2018

- Reviewed patent applications involving upstream oil and gas technology
- Provided technical assistance with respect to geophysical technology
- Conducted prior art patentability and invalidity searches

Research Experience

University of Colorado Boulder, Department of Geological Sciences

Boulder, Colorado

GRADUATE RESEARCH ASSISTANT FOR ANNE SHEEHAN AND KRISTY TIAMPO

Aug 2020 - Present

- Gathered earthquake catalogs located in the Raton Basin for preparation to perform statistical analysis
- Processed Interferometric Synthetic Aperture Radar (InSAR) data to measure and create a surface deformation time-series

Gulf Basin Depositional Synthesis Research Group

Austin, Texas

UT INSTITUTE FOR GEOPHYSICS UNDERGRADUATE RESEARCH ASSISTANT

Aug 2017 - Jan 2018

- Edited, geo-referenced, digitized and constructed map products in ArcGIS
- Located, accessed and scanned geologic data (well, paleontology, literature and seismic)
- Digitized raster well logs to digital LAS format using Neuralog software
- Loaded seismic and well data into seismic interpretation software (Landmark)

Research with UT professor Dr. Charles Kerans

Austin, Texas

UNDERGRADUATE RESEARCH ASSISTANT

Jan 2016 - Jan 2017

- Characterized the geomorphology and sequence stratigraphy of Pedernales Falls in search for Smithwick Shale to provide evidence and explanation of the waterfall's location
- Traversed and outlined the research site at Pedernales Falls State Park, Texas
- Classified and categorized using the Folk classification scheme for observations and measured rock hardness with a Schmidt Hammer

Writing & Presentations

Geomapping: A solution for Discovering Potential Reservoirs with Ultra Deep Azimuthal Resistivity

Stavanger, Norway

AUTHOR

2020

- Technical paper with Halliburton written for publication, but discontinued due to leave from company
- Focused on mapping the subsurface of a field in the North Sea

Ultra Deep Dive into the Benefits of using Ultra Deep Azimuthal Resistivity and Geosignal Images

Houston, Texas

AUTHOR

2019

- Technical poster for internal distribution within Halliburton
- Highlighted the use of an ultra deep azimuthal resistivity tool to overcome the potential challenges that arise with low resistivity contrasts, gradational boundaries, and seismic uncertainty

Geosteering Pre-well Report on Modelling Low Resistivity Contrasts with Gradational Boundaries.

Stavanger, Norway

AUTHOR

2019

- Internal Halliburton presentation for a global webinar with attendees from Saudi Arabia, Europe, and the Americas
- Presented findings from a geological model using inverted deep resistivity measurements

Denali for Families: A Visitor's Guide to Denali National Park and Preserve.

Denali, Alaska

EDITOR AND ILLUSTRATOR

2018

- Children's book about nature and geology for kids and families
- Guide was produced by the National Park Service and Alaska Geographic working in partnership through the Murie Science and Learning Center and published in 2020

Student-led Hydrogeological Characterization of Colorado River Alluvial Terraces Near Austin, Texas using Integrated Geophysical Methods

Austin, Texas

CO-AUTHOR

2017

- An abstract for Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP)
- Findings were also presented to the City of Austin parks staff

Skills

- **ArcMap and ArcGIS** — for spatial analysis and making high quality layouts
- **Python and Jupyter Notebooks** — for graphing and data analysis
- **MATLAB and R** — for data visualization and statistical analysis
- **LaTeX and Markdown** — for formatting reports, documents and slideshows
- **Adobe Illustrator, Photoshop and InDesign** — for graphic design and scientific illustrations