Rudger H. Dame

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EDUCATION

Baylor University, *Master of Science in Geophysics; GPA: 3.76* May 2022

- Thesis: Analysis and Modeling of Subduction on Venus Using Global Geophysical Data Sets

Brigham Young University, *Bachelor of Science in Applied Physics; GPA: 3.59* April 2019

LANGUAGES & TOOLS

- MATLAB
- Python (NumPy, SciPy, Pandas, Matplotlib, Seaborn, Scikit-learn)
- Microsoft Office
- SQL
- ArcGIS
- Agisoft PhotoScan

EXPERIENCE

Baylor University Aug 2019 - Present

Teaching Assistant/Research Scientist *Waco, TX*

- Identified and developed research projects to further our understanding of the interior of Venus. Led the analysis of geophysical data to develop a narrative for the geological history of Venus and identify future research challenges and opportunities.
- Developed gravity data collection techniques and carried out data collection at various locations in Texas with a team of researchers, increasing data collection efficiency by an average of 3 hours per day. Built advanced analytical tools in MATLAB to produce geological and statistical insights from the collected data.
- Taught two undergraduate geology and environmental science classes per semester for two years. Demonstrated the ability to articulate and explain complex geological and environmental processes to undergraduate students. Instructed students in the use of MATLAB.

Jet Propulsion Laboratory/CALTECH Summer 2020 and 2021

JPL NASA Summer Research Intern *Pasadena, CA*

- Leveraged multiple large geological data sets for both Earth and Venus to generate metrics from Earth subduction zones and classify potential subduction zones on Venus.
- Designed scripts in MATLAB to create synthetic gravity models of subducted plates and use Fourier analysis to reduce the modeled gravity resolution to that of the observed gravity data. Performed particle swarm optimization technique to fit the modeled data to the observed gravity data, leading to groundbreaking results in favor of subduction on Venus.
- Translated research findings into reports and communicated findings to the scientific community at the American Geophysical Union 2020 Conference and JPL 2021 Summer Research Conference.

Brigham Young University Nov 2017 - Apr 2019

Geology Research Assistant *Provo, UT*

- Built 18+ digital 3D models of a variety of flat terrains in Ethiopia using Agisoft PhotoScan software.
- Performed data-driven and statistical analysis in Python on the 3D models to quantify the roughness of the terrain and further our understanding of the formation of smooth terrains on planets like Mars and Titan.
- Presented results at the European Planetary Science Congress 2018 in Berlin and the 50th Lunar and Planetary Science Conference to deliver findings to the planetary science community.

Lunar and Planetary Institute/NASA Johnson Space Center Summer 2017

LPI Summer Intern *Houston, TX*

- Operated and monitored a high vacuum system at Johnson Space Center that is an analog instrument to an instrument on board the Mars Curiosity Rover.
- Defined metrics for identifying the presence of hydrogen peroxide on Mars. Ran 30+ experiments and applied the developed metrics in the analysis of analog Martian samples.
- Presented the research listed above at the 49th Lunar and Planetary Science Conference and 49th Annual Division for Planetary Sciences Conference.