

Alexandra Marie Perez

EDUCATION

Arizona State University, Tempe, AZ

Masters of Science in Geological Sciences

Advisors: Dr. Steven Desch, Dr. Devin Schrader, and Dr. Christy Till
Can Porphyritic Chondrules Form in Planetary Embryo Bow Shocks?

August 2016 to August 2018

Texas Tech University, Lubbock, TX

Bachelors of Science in Geosciences with a Concentration in Geology

Advisor: Dr. Haraldur Karlsson

The Mineralogical and Petrographic Study of a High Plains' Meteorite

January 2014 to May 2016

Houston Community College, Houston, TX

Associate in Science

August 2011 to May 2013

Houston Community College, Houston, TX

Veterinary Paramedic Program, ASVDT Certified

August 2009 to August 2010

WORK EXPERIENCE

Graduate Research Assistant

School of Earth and Space Exploration, Tempe, Arizona

- Worked as part of an interdisciplinary team to achieve common goals and objectives
- Autonomously worked on various projects demonstrating superb organizational and time management skills
- Practiced safe laboratory protocols paying close attention to the well-being of other members in the team
- Worked effectively and accurately conducting experiments, and handling nanometer sized samples
- Created a program as part of NASA's NExSS (Nexus for Exoplanet System Science) team

July 2016 to August 2018

Science Olympiad Event Supervisor

Arizona State University, Tempe, Arizona

- Managed a team to develop hands-on Earth science exams in which students from Arizona competed against each other in order to compete in the national tournament

July 2016 to August 2018

Historical Geology Teaching Assistant

Arizona State University, Tempe, Arizona

- Responsible for the supervision and proctoring of 100 university students at a given time
- Supervised and provided direction to students during field work exercises
- Took initiative providing additional help to students such as extended office hours, exam review sessions, and quick availability via email

January 2018 to May 2018

Introduction to Geology Physical Lab Instructor

Arizona State University, Tempe, Arizona

- Created and implemented engaging lectures and quizzes for 90 students to learn about geology while having fun
- Organized hands-on laboratory activities for students to learn and push themselves in the sciences as well as gave students the opportunity to participate in fieldwork exercises
- Attended weekly departmental meetings to gain continual education to provide the best learning experience for my students

January 2017 to May 2017

TECHNICAL SKILLS

- Python High-Level Programming Language
- Jupyter Notebook
- ArcGIS
- R Project for Statistical Computing
- MATLAB
- Adobe Photoshop and Illustrator
- Microsoft Office tools
- Standard and Petrographic Microscope
- Scanning Electron Microscopy
- Electron Microprobe Analyzer
- Carbon Coating Techniques
- Sample Mount Preparation
- Standard Polishing Procedures
- Analyzing Drill Cores
- Grant Proposal and Writing
- Data Handling and Analysis
- Social Media Platforms
- Team Supervision
- Project Management

COURSEWORK

- Environmental Geology
- Structural Geology
- Sedimentology and Stratigraphy
- Geomorphology
- Geographic Information Systems
- Python for Graduate Research
- Principles of Chemistry I & II
- University Physics I & II
- Introduction to Engineering
- Mechanical Engineering Statics
- Calculus I, II, & III
- Historical Geology
- Fundamentals of Planetary Geology
- Meteorites & Cosmochemistry
- Thermodynamics of Natural Systems
- Mineral Physics
- Mineral Science
- Stardust in Meteorites
- Mineralogy & Petrology
- Geophysics I & II
- Geochemistry
- Optical Mineralogy & Crystallography
- Igneous & Metamorphic Petrography

OUTREACH AND VOLUNTEER EXPERIENCE

Boricua Planeteer (2018-present)

- Part of an initiative of Puerto Rican scientists to mentor Latinos interested in pursuing a career in the planetary sciences

Earth Science guest speaker at Mountain Pointe High School, Phoenix, Arizona (2017)

- Gave an engaging and inspirational lecture to students to pursue career paths in the geological sciences

2017 - 2018 Skype A Scientist Volunteer

- Presented talks via Skype to classrooms around the United States to inspire and reach out to students about geology

2017 Solar Eclipse Viewing Event volunteer (ASU)

- Educated hundreds of people during the eclipse viewing event pointing out important features about our Sun

2016 Lubbock Gem and Mineral Show volunteer speaker: Meteorites

- Presented a talk about meteorites to the community and their importance in understanding the Solar System

2015-2016 STEM: It's A Girl Thing annual volunteer (TTU)

- Created hands-on activities to teach students about our Solar System

2014-2016 STEM Mother-Daughter Program annual volunteer (TTU)

- Created engaging projects to reach out to students and parents about geology

BP Oiled Wildlife Certification Workshop (2010)

- Trained to aid in cleaning up oiled wildlife off the Gulf Coast in the aftermath of the BP oil spill

PUBLICATIONS

- Perez, A. M.**, Desch, S. J., Till, C.B., & Schrader, D.L. An Experimental Investigation of the Planetary Embryo Bow Shock Model as a Chondrule Formation Mechanism. *Geochimica et Cosmochimica Acta*. July 2018. (In Revision)

CONFERENCE PRESENTATIONS AND POSTERS

Perez, A. M., Desch, S. J., Schrader, D. L., & Till, C.B. An Experimental Investigation of the Planetary Embryo Bow Shock Model as a Chondrule Formation Mechanism [2041]. 49th *Lunar and Planetary Science Conference*, Houston, TX, March 2018. (oral presentation)

Perez, A. M., Desch, S. J., Schrader, D. L., & Till, C.B. Understanding the conditions of planet formation through chondrules [4084]. *Habitable Worlds 2017*, Laramie, WY, November 2017. (poster presentation)

Perez, A. M., Desch, S. J., Schrader, D. L., & Till, C.B. Determining the relative timing of formation of chondrules vs planetary embryos through experiments [2037]. *The First Billion Years: Accretion*, Houston, TX, August 2017. (oral presentation)

Perez, A. M., Desch, S. J., Schrader, D. L., & Till, C.B. Can porphyritic chondrules form in planetary embryo bow shocks? [2014]. *Chondrules as Astrophysical Objects*, Vancouver, BC, Canada, May 2017. (oral presentation and session chair)

MAGAZINE ARTICLES

Perez, A. M. 2018. ¿Por qué se extinguieron los dinosaurios? Novedosas hipótesis. *Fronteras de la Ciencia*, 3, 85-91.

METEORITE CLASSIFICATION CONTRIBUTIONS

Northwest Africa (NWA) 10920. Write-up contributions include petrography and geochemistry. Approved November 2016, *Center for Meteorite Studies* at Arizona State University.

OUTREACH AND VOLUNTEER EXPERIENCE

Arizona Science Olympiad 2018 State Tournament Event Supervisor (ASU)

Earth Science guest speaker at Mountain Pointe High School, Phoenix, AZ (2017)

2017 Skype A Scientist Volunteer

2017 Solar Eclipse Viewing Event volunteer (ASU)

Arizona Science Olympiad 2017 State Tournament Event Supervisor (ASU)

2016 Lubbock Gem and Mineral Show volunteer speaker: *Meteorites*

2015-2016 STEM: It's A Girl Thing annual volunteer (TTU)

2014-2016 STEM Mother-Daughter Program annual volunteer (TTU)

BP Oiled Wildlife Certification Workshop (2010)

Citizens for Animal Protection Veterinary Technician volunteer (2009-2010)

Wildlife Center of Texas Animal Rehabilitator volunteer (2009-2010)

Kruger National Park, South Africa Conservation Artist

MEMBERSHIPS AND ORGANIZATIONS

Fronteras de la Ciencia contributing author

Boricua Planeteer

Arizona State University's Graduate and Professional Student Organization (GPSA)

The Meteoritical Society

American Meteor Society

Texas Tech Geoscience Society

American Association of Petroleum Geologists

American Society of Veterinary Dental Technicians (ASVDT)