

**Yamini Patel**

35 Club Road, Unit 409,  
Eugene, OR 97401  
Patelyamini1234@gmail.com  
(313) 405-0038 (cell)

**EDUCATION**

B.S. Earth and Space Exploration (Geological Sciences) - Arizona State University 2023

Certificate in Field Geology - Arizona State University

Coursework: Geographic Info Science I, Geographic Info Science II, Cartography and Georepresentation, Field Geology I, Field Geology II, Advanced Field Geology: Data Based Geologic Mapping, and Remote Sensing II

**COMPUTER SKILLS**

ArcGIS Pro – Intermediate, StraboSpot – Intermediate, Google Earth Engine – Intermediate  
Microsoft Suites, Adobe Illustrator, MATLAB

**LAB/INSTRUMENT SKILLS**

End-load Piston Cylinder, Electron Microprobe (EPMA), 10 Ton Hydraulic Press, Bench-top lathe, Puk Arc Welder, Slow-speed Diamond Saw, Petrographic Microscope, Mastersizer 3000 – Particle Size Analyzer, Scientific Analysis, Teamwork, Creative Problem Solving

**TEACHING**

Graduate Employee (GE) – University of Oregon – January 2024 and June 2024

Winter 2024 term: GE for EARTH 102 (Environmental Geology) Lab – 20hrs per week

Spring 2024: GE for EARTH 103 (Historical Geology) Lab – 20hrs per week

**FIELDWORK**

Field Assistant – Valles Caldera, NM – October 2022 and August 2023

Assisted graduate student in characterizing El Cajete pyroclastic deposit, collecting samples, ground excavation, and scouting potential locations of interest.

Field Assistant – Valles Caldera, NM – August 8-13, 2022

Assisted graduate student in mapping various explosion pits on the Banco Bonito lava flow by distinguishing between various rock textures present at the pits using StraboSpot and GPS system to precisely locate different rocks within a broad category.

**RESEARCH**

Senior Thesis– Arizona State University – August 2022 – May 2023 – 20hrs per week

“Recent Explosive Eruptions at the Valles Caldera, NM” Worked in Dr. Amanda Clarke’s  
Analyzed the El Cajete pumice deposits in the Valles Caldera, New Mexico by focusing on the detailed textural analysis of the pumice samples through petrographic and SEM analysis.

ASU/NASA Space Grant – Arizona State University – August 2022 – January 2023

Ran rock samples from the Granite Wash Mountains in Arizona using emission spectroscopy.

NSF Research Experience for Undergraduates (REU) Planetary Habitability Over Space and Time (PHOST) - RICE University - Summer 2022 – 20hrs per week

Worked in Dr. Rajdeep Dasgupta's Experimental Petrology Rice Team (ExPeRT) lab investigating hydrous mantle melting on Mars, quantifying storage of water in the Martian mantle, and how the mantle might have played a role in releasing and sequestering water from and in the interior of Mars.

Undergraduate Laboratory Assistant – Arizona State University – May 2022 – 20hrs per week  
Assisted graduate student in simulating pyroclastic density currents. Tasks include helping with filling up and emptying the flume, setting up the camera to capture the simulated flow, and help with coming up with solutions to improve future runs.

ASU/NASA Space Grant – Arizona State University – August 2021 – May 2022 – 20hrs per week  
Worked in Dr. Amanda Clarke's volcanology lab on analyzing the El Cajete pumice deposits in the Valles Caldera, New Mexico by making density measurements to understand the new batch of magma beneath the caldera and the plumbing system dynamics that led to the youngest eruption 50,000 years ago. Participated in a total of 20 hours of informal education/outreach, poster presentation session, and presented my work at the Annual Arizona Space Grant Symposium.

### **INFORMAL EDUCATION/OUTREACH**

SESE Earth and Space Open House - Arizona State University – November 4<sup>th</sup>, 2022

[Blog Post](#) - Rice University - June 17, 2022

Astronomy Night at Mesa Community College – December 2021 - March 2022

Arizona State University Homecoming Block Party – October 30, 2021

### **ABSTRACTS**

[RECENT EXPLOSIVE ERUPTIONS AT THE VALLES CALDERA, NEW MEXICO: INSIGHT INTO DYNAMICS FROM PUMICE TEXTURES](#) **PATEL, Yamini, CLARKE, Amanda B., GIBLIN, Jacqueline and ROGGENSACK, Kurt**, School of Earth and Space Exploration, Arizona State University, Tempe, AZ 85287 Geological Society of America Abstracts with Programs.

Vol. 55, No. 6, 2023 doi: 10.1130/abs/2023AM-394703

[PAST AND FUTURE HAZARDS AT VALLES CALDERA, NM: ERUPTION DYNAMICS OF EL CAJETE PYROCLASTIC FALL](#) **GIBLIN, Jacqueline, CLARKE, Amanda B., PATEL, Yamini and ROGGENSACK, Kurt**, School of Earth and Space Exploration, Arizona State University, Tempe, AZ 85287

Clesi, V., **Patel, Y.**, Dasgupta, R., 2022, [Water Storage in the Shallow Martian Mantle Constrained by Experimental Phase Relations of Hydrous Peridotites](#). In AGU Fall 2022 (DI25D-0046).

Giblin, J., **Patel, Y.**, Clarke, A., Roggensack, K., (2022). Investigating the Eruption Dynamics of the Most Recent Post-Caldera Volcanic Eruption from Valles Caldera, NM. Poster and lightning talk presented at the AGU Chapman Conference on Distributed Volcanism and Distributed Volcanism Hazards, Flagstaff, AZ.

### **AWARDS & HONORS**

Ravi De Filippo Geology Field Camp Scholarship – 2023, NSF Graduate Research Fellowship (GRFP) Honorable Mention – 2023, ASU/NASA Space Grant - 2021-2022 and 2022-2023 Academic Years, Dean's List Fall 2019 – Spring 2022