

# Siena Smania

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## RESEARCH INTERESTS

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Geomicrobiology, astrobiology, extreme environments, microbial ecology, environmental microbiology

## EDUCATION

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### MS, Geological Sciences

Arizona State University - *School of Earth and Space Exploration (SESE)*

**In Progress**

**Tempe, AZ**

### BS, Astrobiology & Biogeosciences

Arizona State University - *School of Earth and Space Exploration (SESE)*

Minors: *Biological Sciences, French*

**May 2023**

**Tempe, AZ**

GPA: 3.81/4.00

### High School Diploma

Chaparral High School - GPA: 4.19/4.00

**May 2019**

**Scottsdale, AZ**

## TECHNICAL SKILLS

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Python      R      Excel      MacOS      Windows      Unix      Photoshop

## LAB SKILLS

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DNA extractions      Micropipetting      Culturing      Light Microscope      Ion chromatography

## RESEARCH EXPERIENCE

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### Senior Thesis, SESE

Arizona State University - *Dr. Everett Shock*

**Aug. 2022 - May 2023**

**Tempe, AZ**

- Extracted DNA from Yellowstone hot spring sediment samples
- Characterized 16s rRNA sequences from hot spring sediment samples using R
- Compared microorganism communities across a geochemical gradient

### Space Grant Intern, NASA

Arizona State University - *Dr. Everett Shock*

**Aug. 2022 – May 2023**

**Tempe, AZ**

- Used a python program to calculate and compare energy supplies of Yellowstone hot springs across a geochemical gradient
- Participated in scientific outreach aimed towards students and the general public

### IRES Intern, National Science Foundation

Gobabeb Research Institute - *Dr. Heather Throop*

**Summer 2022**

**Gobabeb, Namibia**

- Lead field experiments in the Namib desert pertaining to carbon and nitrogen cycling in dryland ecosystems
- Analyzed field data using R
- Presented research for science committee at Namibia University of Science and Technology (NUST)

### Research apprentice

Arizona State University - *Dr. Maitrayee Bose*

**Aug. 2021 - May 2022**

**Tempe, AZ**

- Worked with meteorite accretion models to look at the trends and impacts the Late Heavy Bombardment period had on Earth's volatile inventory
- Read and critically analyzed literature to apply to the project; organized and ran data through spreadsheets while using python to model data

## **Astrobiological Research Collaboration**

Arizona State University - *Dr. Jordan Okie*

Fall 2021

Tempe, AZ

- Collaborated with a group of 13 students to write a paper on the limitations to the complexity of life in the universe (limits on temperature, energy, space, and time)
- Created and ran a discord server to organize meetings and writing sessions with collaborators

## **OUTREACH**

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**Outreach Officer**, Students for the Exploration and Development of Space (SEDS) **Aug 2022 - May 2023**

Arizona State University - *Dr. Jim Bell*

Tempe, AZ

- Organized and ran various outreach events for space exploration and development with a wide range of audiences

**Psyche Inspired Intern**, NASA

Arizona State University - *Dr. Cassie Bowman*

Aug 2020 – May 2021

Tempe, AZ

- Developed [four art pieces](#) to aid in outreach about the NASA Psyche Mission

## **LEADERSHIP EXPERIENCE**

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**Student Mentor**, *Exploring SESE (SES191)*

Arizona State University - *Dr. Karen Knierman, Dr. Tom Sharp*

Fall 2021, Fall 2022

Tempe, AZ

- Led discussions on majors, research, and careers
- Led team-building exercises with over 70 freshmen
- Mentored over 50 freshmen in their Introduction to SESE class

## **VOLUNTEERING**

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Paw Placement, *Kitty Caretaker*

Sept. 2017 - May 2019

- Cleaned cages, fed and played with cats, and aided in adoption processes of rescue

## **CLUBS**

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SEDS (Students of the Exploration and Development of Space) - ASU

Aug. 2019 - May 2023

GSA (Gay-Straight-Alliance) - Chaparral HS

Aug. 2015 - May 2019

Girls Who Code - Chaparral HS

Aug. 2015 - May 2019

## **HONORS & AWARDS**

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Best Cosplay Craftsmanship Award (Saboten Con 2022)

Dean's List (Fall 2019 - Spring 2023)

New American University Scholar (Fall 2019 - Spring 2023)

## **RELEVANT COURSES**

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Biology I & II + Chemistry I & II + Physics I & II

Mineralogy

Geochemistry

Genetics

Ecology

Biology of Microorganisms + Microbiology Lab

Geomicrobiology