

# FYRE First Year Research Experience

William Hart in Geology is looking for First Year students to become a part his research projects through the new FYRE program.

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## FYRE-STEM Are you interested in Volcanoes and their products?

Did you realize that studying volcanoes and their products can provide scientists with a better understanding of the inner workings of the Earth? Did you realize that the products of explosive volcanic eruptions are routinely used to provide age and environmental context information for multi-disciplinary investigations into human evolution? Read on and learn about opportunities (one or two semesters and possibly beyond) to become involved in research addressing these issues. Project participation requires a 4-6 hour per week minimum time commitment.

### Basalt volcanism in the northwestern United States



**Purpose:** to understand the origin of both large- and small-volume basalt eruptions in the Idaho-Oregon-Nevada region over the past 16 million years.

**Method:** determine chemical composition of basalts in order to constrain the source and processes leading to magma generation and eruption to the earth's surface.

**Experience:** gain geochemical laboratory and instrumentation experience and data synthesis and interpretation skills, and contribute to publication and presentation of research findings.

**Keywords:** geology, earth science, chemistry, and volcanoes

### Explosive volcanic eruptions and human evolution

**Purpose:** to provide temporal and environmental contexts for the early human fossil record in the Afar region of Ethiopia over the past 6 million years.

**Method:** examine the physical and mineralogical characteristics of volcanic ash (tephra) as a means to correlate tephra samples from widely separated deposits and to constrain the type of eruptions responsible for their origin.

**Experience:** gain experience in macro- and microscopic laboratory techniques used for geologic materials identification, and contribute to publication and presentation of research findings.

**Keywords:** geology, earth science, paleoanthropology, volcanoes, and human evolution