

Andrea E. Richardson

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EDUCATION

M.S. Texas Tech University

Degree expected: May 2021

Geosciences

Thesis: Space/time evolution of magmatism in the Klamath Mountains Province (KMP),

CA/OR: Implications for Cordilleran arc magma periodicity

B.A. Vanderbilt University, Magna Cum Laude

May 2019

GPA: 3.9

Earth and Environmental Sciences, Minor French

Honors thesis: Geologic map of the Northeastern Unicoi and Northwestern Iron

Mountain Gap Quadrangles, Tennessee Appalachians

RESEARCH EXPERIENCE

2019-2020

Graduate Research Assistantship

Texas Tech Department of Geosciences

Thesis: Space/time evolution of magmatism in the Klamath Mountains Province (KMP), CA/OR: Implications for Cordilleran arc magma periodicity

Thesis advisor: Dr. Aaron S. Yoshinobu

- Use of ArcGIS for measuring and modeling extent of igneous intrusions
- Development of methods to calculate volumes of igneous intrusions
- Synthesizing spatial and temporal data of magmatic activity to determine spatial trends and periodicity of magmatism over time

2017-2019

Undergraduate Research

Vanderbilt Department of Earth and Environmental Sciences

Senior Honors Thesis: Geologic map of the Northeastern Unicoi and

Northwestern Iron Mountain Gap Quadrangles, Tennessee Appalachians

Advisor: Dr. Garrett Tate

- Structural mapping
- Field seasons: summer 2017 and summer 2018, 5 weeks each
- Constraining geometry of a foreland-dipping duplex imbricate fault structure
- Preparation of geologic maps in ArcGIS
- Measurement and identification of structural and lithologic features in the field
- Collection, preparation, and analysis of thin-section samples

TEACHING EXPERIENCE

2018-2019

Undergraduate Teaching Assistant

Vanderbilt University

EES 1510: Dynamic Earth: Intro to Geology (three semesters)

OTHER EXPERIENCE

- 2020-2021 **Geoscience Student Society Secretary**
Texas Tech University
- 2018-2019 **Geology Club Secretary**
Vanderbilt University
- Spring 2017 **Communications Intern**
Association E4, Aix-en-Provence, France
Non-profit promoting environmental and ecological education

CONFERENCE PRESENTATIONS

- A.E. Richardson**, A.S. Yoshinobu, and C.G. Barnes (2020). Space/time evolution of magmatism in the Klamath Mountains Province (KMP), CA/OR: Implications for Cordilleran arc magma periodicity, Abstract 239-9-T16, 2020 GSA Connects Online, Oct. 26-30.
- A. E. Richardson**, G. W. Tate, I. A. Calzolano, and L. Wan (2018). Geologic map of the Northeastern Unicoi and Northwestern Iron Mountain Gap Quadrangles, Tennessee Appalachians, Abstract 365-T179, 2018 GSA Annual Meeting, Indianapolis IN, Nov 4-7.
- G.W. Tate, E. Sharp, and **A. E. Richardson** (2018), Modeling duplex kinematics using new field mapping in the Mountain City Window, Eastern Tennessee, Abstract 19-T14, 2018 GSA Southeastern Section Meeting, Knoxville, TN, April 12-13.
- A. E. Richardson**, G. W. Tate, and E. Sharp (2018), Geologic map of the southern Erwin Quadrangle, Tennessee Appalachians, Abstract 11-T18, 2018 GSA Southeastern Section Meeting, Knoxville, TN, April 12-13.
- E. Sharp, G.W. Tate, and **A.E. Richardson** (2017), Geologic map of foreland-dipping duplex structures in the southwestern Mountain City Window, Chestoa Quadrangle, Tennessee Appalachians, Abstract 287-10, 2017 Annual Meeting, GSA, Seattle, WA, Oct 22-26.

GRANTS

USGS EDMAP No. G18AC00101, PI: Tate, G. W., **Primary Student Mapper: Andrea Richardson**, Geologic mapping of parts of Unicoi and Carter counties, TN: fault architecture and Appalachian duplex development.

ACHIEVEMENTS AND AWARDS

Fall 2019-Spring 2021 **J.T. and Margaret Talkington Graduate Fellowship**
Texas Tech University

Spring 2019 **Graduated Magna Cum Laude**
Vanderbilt University

2018 **USGS Best Student Geologic Map Competition**, 3rd place
GSA Annual Meeting, Indianapolis IN

LANGUAGES

English – native

French – advanced

German – conversational

Spanish – conversational