

# Zachary T. Yates

Department of Geological Sciences, University of Alabama, Box 870338, Tuscaloosa, Alabama, 35487  
Mobile: (276)-979-6371 | Email: ztyates@crimson.ua.edu | Lab #2079

## Education

---

**M.S., Geological Sciences** (Expected) 2021

The University of Alabama

Advisor: Dr. Ibrahim Çemen

Thesis: Structural Geometry of Thrusting in the Eastern Ouachita Mountains-Arkoma Basin Transition Zone

GPA: N/A

**B.S., Geology** 2018

Radford University

Advisor: Dr. Parvinder Sethi

Thesis: Pyrite Mineralization in Devonian-Age Black Shale in Southwest Virginia: Implications for Acid Drainage and Paleoenvironmental Reconstruction

GPA: 3.89

## Research Experience

---

**Geologic Mapping Project** 2018

Professor: Dr. Jon Tso

Description: Using geologic mapping and field techniques I was able to create a detailed geologic map and written report on the structural history of an area complicated by the Pulaski thrust fault system in southwestern Virginia.

**Pyrite Mineralization in Devonian-Age Black Shale in Southwest Virginia: Implications for Acid Drainage and Paleoenvironmental Reconstruction (First Author)** 2017

Professor: Dr. Parvinder Sethi

Description: Independent research with partner who served as second author. Removed stratigraphic column of Devonian pyritic black shale from outcrop and analyzed in a laboratory setting using multiple techniques. Methods of investigation included analyzing lamination patterns for paleocurrent and bioturbation indicators, using relative pyrite density as a proxy for bioturbation, and examining pyrite crystalline structure using scanning electron microscopy for insight into oxygenation levels during pyrite formation.

## Conference Presentations

---

(3) **Yates, Z.**, Childers, H., Sethi, P., Stephenson, G. "Pyrite Mineralization in Devonian-Age Black Shale in Southwest Virginia: Implications for Acid Drainage and Paleoenvironmental Reconstruction," Radford University Student Engagement Forum, Radford, Virginia., Spring 2018 (Poster).

(2) **Yates, Z.**, Childers, H., Sethi, P., Stephenson, G. "Pyrite Mineralization in Devonian-Age Black Shale in Southwest Virginia: Implications for Acid Drainage and Paleoenvironmental Reconstruction," Geological Society of America-Southeastern Section Meeting, Knoxville, Tennessee., Spring 2018 (Poster).

(1) **Yates, Z.**, Childers, H., Sethi, P., Stephenson, G. "Pyrite Mineralization in Devonian-Age Black Shale in Southwest Virginia: Implications for Acid Drainage and Paleoenvironmental Reconstruction," Radford University Student Engagement Forum, Radford, Virginia., Spring 2017 (Poster).

## Teaching and Work Experience

---

**Graduate Teaching Assistant** August 2019-Current  
Department of Geological Sciences  
The University of Alabama  
Geology 101: The Dynamic Earth

**Geologist** May 2018-August 2019  
Warrior Met Coal, Inc.  
Central Mining Office  
Assisted in the management of four core drills which were used to locate and map faults and to determine stratigraphic sequences. Developed skills relating to three-dimensional fault interpretation as it relates to normal faulting in the Black Warrior Basin of Western Alabama.

**Work Study** September 2015-December 2016  
Department of Geology  
Radford University  
Maintained departmental laboratory equipment and provided assistance to students working on geology lab work.

**Underground Miner** May 2013-August 2013  
Consol Energy  
Buchanan No. 1 Mine  
Worked as a general underground miner with duties consisting of assisting in the maintenance of conveyor belt systems of the mine.

## Honors and Awards

---

**Graduate Teaching Assistantship** 2018-2019  
Department of Geosciences  
The University of Alabama

**Dean's Scholar Award** 2018  
Department of Geology  
Radford University

**Radford University Foundation Scholarship** 2017  
Radford University

**Virginia Community College Transfer Scholarship** 2015-2018  
Virginia Community College System  
Southwest Virginia Community College/Radford University

**Work Study Scholarship**

Department of Geology  
Radford University

2015-2016

**Leadership and Community Involvement**

---

**Sigma Gamma Epsilon, Honor Society of the Earth Sciences**

Radford University Chapter

2016-2018

President

2017-2018

Secretary

2016-2017

**Selu Garden and Service Club**

Radford University

Communication Director

2015-2016

**Bobcat Backpacks**

City of Radford

Volunteer

2017-2018