

**ABIGAIL SAENGER KNAPP**  
245 Hilltop Rd. Athens, Georgia 30605  
(404) 803-6878 | [abigail.s.knapp@gmail.com](mailto:abigail.s.knapp@gmail.com)  
ORCID: 0000-0002-3878-6710 | [askgeology.com](http://askgeology.com)

## EDUCATION

**M.S. in Geology**, 2018, University of Georgia Athens, GA  
Thesis: *Effects of Precipitation and Drought Dynamics on Harmful Algal Blooms in Two Piedmont Reservoirs*, supervised by Dr. Adam M. Milewski

**B.S. in Geology**, 2013, University of Georgia Athens, GA  
Undergraduate Thesis: *Melt Inclusion Study of the East Fork Rhyolite Member of the Valles Caldera, New Mexico*, supervised by Dr. Mike Roden

## RESEARCH INTERESTS

Nutrient flux at GW/SW interfaces, plant mediation of hydrologic connectivity, soil carbon sequestration

## RESEARCH EXPERIENCE

**Water Resources and Remote Sensing Laboratory** Athens, GA  
**Department of Geology, University of Georgia** 2016 – 2018  
*Research Assistant*

- Obtained funding, planned & conducted fieldwork, analyzed data for M.S. thesis
- Collaborated on other lab and university research projects, grant applications, and field trips
- Coded prototype R Shiny application of water quality data for U.S. Fish & Wildlife
- Co-hosted Fulbright scholars and visiting speakers
- Mentored undergraduate lab members

**Department of Geology, University of Georgia** Athens, GA  
*Undergraduate Researcher (Senior Thesis)* 2012 – 2013

- Collected rock samples and prepared thin-section blanks for mounting and polishing
- Investigated geochemistry using electron microprobe, polarized light microscopy, and SEM
- Presented research at UGA Center for Undergraduate Research Symposium

**Southeastern Suture of the Appalachian Margin Experiment (SESAME)** Athens, GA  
**Department of Geology, University of Georgia** 2011, 2013  
*Undergraduate Researcher, NSF funded project*

- Assisted with installation and calibration of Flexible Array broadband stations
- In 2013, assisted with checking the sensor network for maintenance and data collection

**Department of Geology, University of Georgia** Athens, GA  
*Undergraduate Researcher* 2011

- Investigated mineralogy using electron microprobe and polarized light microscopy
- Presented research at regional conference (Southeastern GSA) with a first-authored poster

## GRANTS (funding M.S. thesis work)

- |  |        |
|--|--------|
| • Geological Society of America Research Grant, 2017 | \$1250 |
| • Watts-Wheeler Research Grant, 2017                 | \$1000 |

## RELEVANT RESEARCH SKILLS

- Fieldwork coordination, planning, and implementation
- Surface water sampling – quality, flow, spectrophotometry; chl-a sampling/filtration
- Data and Statistical analysis: R/Shiny, Python, ArcGIS Desktop & Pro
- Satellite remote sensing: Google Earth Engine, ENVI, SNAP
- Hydrogeologic modeling software: WASP, SWAT, MODFLOW, and Aqtesolve

## PUBLICATIONS AND ABSTRACTS

**Knapp, A.S.** and Milewski, A.M., 2020. Spatiotemporal Relationships of Phytoplankton Blooms, Drought, and Rainstorms in Freshwater Reservoirs, Water 12 (2), 404.

Moorman, M., Hutcheson, H., **Knapp, A.S.**, Creviston, M., Rasmussen, T., and Milewski, A.M., 2019. A Status Assessment of Water Quality on US Fish and Wildlife Refuges in the Southeastern US. 11<sup>th</sup> National Monitoring Conference, Abstracts with Program.

**Knapp, A.S.**, Milewski, A.M., Rotz, R.R., Yilmaz, K.K., Fulton, S., James d.L., Webster, C., 2017. The Role of Drought and Storms in Harmful Algal Bloom Events in Two Georgia Piedmont Reservoirs. Geological Society of America, Abstracts with Program v 49.

**Knapp, A.S.**, Milewski, A.M., Rotz, R.R., 2017. Temporal Relationship between Drought-Precipitation Patterns and Freshwater Harmful Algal Blooms in Lake Allatoona, Georgia. Georgia Water Resources Conference, Abstracts with Program.

**Knapp, A.S.**, Milewski, A.M., and Rotz, R.R., 2017. Temporal Relationship between Drought-Precipitation Patterns and the Onset, Duration, and Severity of Freshwater Harmful Algal Blooms in Lake Allatoona, Georgia. Geological Society of America Southeastern Section, Abstracts with Program v 49.

**Saenger, A.** and Roden, M., 2013. Melt Inclusion Study of the East Fork Rhyolite Member of the Valles Caldera, New Mexico. University of Georgia CURO Symposium, Program & Abstracts.

**Saenger, A.L.** and Swanson, S.E., 2012. Mineralogy of Primary Phosphate Minerals in Li Pegmatites of the Kings Mountain District, North Carolina. Geological Society of America Southeastern Section, Abstracts with Program v 44.

Hogan, D.L., Tabor, B.M., Harper, J.R., North, B.K., Vanhazebroek, E., Lawler, J.D., **Saenger, A.L.**, Taylor, N.J., Fleisher, C.J. and Swanson, S.E., 2012. Comparison of Mineralogy of Li Pegmatites in the Kings Mountain District, North Carolina. Geological Society of America Southeastern Section, Abstracts with Program v 44.

Gore, Pamela J. W., Pollack, G.D., and **Saenger, A.L.**, 2009, Two-Year College Collaboration with K-12 Schools and Universities. Geological Society of America, Abstracts with Program v 41.

## RELEVANT PROFESSIONAL AND TEACHING EXPERIENCE

**Georgia Environmental Protection Division, Watershed Protection Branch**  
*Geologist I – III, Underground Injection Control Coordinator*

Atlanta, GA  
2018-2021

- Wrote no-discharge state wastewater treatment permits

- Reviewed hydrogeologic models, wastewater treatment designs, and geologic reports
- Completed annual UIC program grant application, budget, EPA reporting, and work plans
- Curated the state's UIC well inventory, permitting and compliance files
- Communicated and presented to regulators, stakeholders, and the regulated community

#### **Athens-Clarke County Water Conservation Office**

Athens, GA

*Water Education Intern ( Georgia DNR Project WET Certification)*

2017

- Taught educational modules on water conservation to 300 children and adults
- Gave tours of the J.G. Beacham Drinking Water Treatment Plant to K-12 children

#### **University of Georgia, Department of Geology**

Athens, GA

*Laboratory Coordinator*

2017

(Physical Geology)

- Designed and updated teaching materials, managed lab samples and displays
- Gave laboratory lectures; proctored and graded quizzes, exams, and assignments
- Managed grading and attendance information

#### **University of Georgia, Department of Geology**

Athens, GA

*Teaching/Laboratory Assistant*

2016-2018

(Physical Geology, Mineralogy, Igneous Petrology)

- Designed and updated teaching materials
- Gave laboratory lectures; proctored and graded quizzes, exams, and assignments
- Managed grading and attendance using online coursework platform (D2L)

#### **Southeastern Suture of the Appalachian Margin Experiment (SESAME)**

Blairsville, GA

**Department of Geology, University of Georgia**

2013

*Undergraduate Employee*

- Taught Rocks and Minerals module to K-12 students at the Georgia Mountain Research and Education Center

### **RELEVANT COURSEWORK**

Geology Field School	Hydrogeology	Environmental GIS
Surficial Processes	Advanced Hydrogeology	Environmental Remote Sensing
Aqueous Geochemistry	Hydrologic Models	Data Analysis in Geosciences

### **INVITED PRESENTATIONS AND WORKSHOPS**

2018 – 2021	“Igneous Petrology”, Atlanta Geological Society P.G. Workshop Series
2018	“Effects of Precipitation and Drought Dynamics on Harmful Algal Blooms in Two Piedmont Reservoirs”, Atlanta Geological Society Meeting

### **HONORS AND AWARDS**

2018	Outstanding Teaching Assistant Award, University of Georgia
2018	Outstanding M.S. Student, Geology Department, University of Georgia
2017	Geological Society of America Travel Grant
2017	Geological Society of America Southeastern Section Travel Grant
2017	Watts-Wheeler Travel Grant

2012	Vernon J. Hurst Undergraduate Research Grant Recipient
2008	Outstanding Student in Historical Geology, Georgia Perimeter College
2007 – 2012	Georgia HOPE Scholarship Recipient

## **PROFESSIONAL SERVICE AND INVOLVEMENT**

2021 – Present	Chair, Atlanta Geological Society (AGS) Georgia P.G. Workshops Committee
2018 – 2021	Invited instructor, AGS Georgia P.G. Workshops
2017	Student Volunteer, IAH-ECHN, GSA National Meeting
2017	Technical Assistant, Georgia Water Resources Conference
2016-2018	Undergraduate Mentor, UGA Geology Club
2012	Contributing Logo Artist, UGA Geology Club

## **PROFESSIONAL MEMBERSHIPS**

2018 – Present	Atlanta Geological Society (AGS)
2018 – 2021	Groundwater Protection Council (GWPC)
2017 – 2018	American Institute of Professional Geologists (AIPG)
	American Geophysical Union (AGU)
	International Association of Hydrologists (IAH-ECHN)
2016 – 2018	University of Georgia Geology Club
	UGA Women in Science
	UGA Graduate Professional Student Association
2010 – Present	Geological Society of America (GSA)

## **CERTIFICATIONS AND TRAINING**

2019	Georgia ASBOG Examination – G.I.T. (Geologist In Training)
2019	Georgia Dept. of Agriculture Certified Nutrient Management Planner
2018	WASP Modeling (Water Quality Analysis Simulation Program) 35-hr workshop, EPA Region 4
2018	University of Georgia Teaching Development Transcript
2017	Georgia DNR Project WET (Water Education for Teachers) Certification