



# Department of Geology Awards

April 24, 2020

University of Georgia

## **Geology Department Administration**

### **Department Head**

Dr. Paul A. Schroeder

### **Associate Department Head**

Dr. Adam Milewski

### **Undergraduate Advisors**

Dr. Doug Crowe

Dr. Rob Hawman

### **Graduate Coordinator**

Dr. Alberto Patiño-Douce

## **Geology Alumni Advisory Board**

### **Mr. Grant Eager, Chair**

US Vulcan Materials Co.

### **Ms. Charlotte Abrams**

Nuclear Regulatory Commission

### **Mr. Jeff Blackmon**

Project Manager, Newmont Gold

### **Mr. Skip Forsthoff**

Consultant Geologist Chevron

### **Mr. Ken Gillon**

Consultant

### **Mr. Alex Glover**

Consultant

### **Mr. Frank Lieth**

US Vulcan Materials Co.

### **Mr. Ed Moritz**

President, Gustavson Associates

**Mr. Daven Mashburn**  
Senior Exploration Manager, Newmont Gold

**Dr. Wes Myers**  
Los Alamos National Laboratory

**Mr. Jim Redwine**  
Senior Managing Scientist  
Anchor QEA, LLC

**Dr. James Saunders**  
Professor of Geology, Auburn University

**Mr. Jeff Shellebarger**  
Retired, Chevron NA Exploration and Development

# Undergraduate Accolades

## B.S. / A.B. Recipients Fall 2019 – Spring 2020 – Summer 2020

Ansley Jordan Ball  
Bryce Finch  
Austin Gholson  
Laura Hanawalt  
Sarah Hood  
Catherine LaBriola  
Morgan Lewis

Ashley Little  
Cash Owens  
Matthew Prausa  
Sydney Shatz  
Earl Terry  
Irene Valli

## External Awards

### *American Institute of Professional Geologists Georgia Section: Student Scholarship 2020*

Sarah Olmstead

## Senior Theses/Research and/or CURO

1. **Kirsten Farmer:** Population and Size Distribution of *Cibicides antarcticus* on *Adamussium colbecki* within Explorers Cove, Antarctica (Walker)
2. **Catherine Labriola:** Preliminary Test of the Mesozoic Marine Revolution Hypothesis Using Repair Scars on Cretaceous Oysters, Southern Atlantic Gulf and Coastal Plain (Walker)
3. **Morgan Lewis:** Testing Martian Valley Formation Mechanisms. (Milewski)
4. **Cash Owens:** Geologic History and Lava-Fracture Interaction at King's Bowl, Craters of the Moon National Monument, Idaho. (Klimczak)
5. **Ashley Little:** Structural diagenesis of the Heidelberg Sandstein, Subhercynian Cretaceous Basin, Germany. (Klimczak)
6. **Sydney Shatz:** Sandstone provenance of the marine Jurassic of western Canada and central Montana. (Holland)

## Presentations at Professional Meetings

1. **Shatz, S.R.**, and S.M. Holland, 2019. Sandstone provenance of the marine Jurassic of western Canada and central Montana. Geological Society of America Abstracts with Programs, v. 52. Phoenix, AZ.

2. Callihan, M. B., Klimczak C., **Owens C. A.**, Lowe R. C. III, and Byrne P. K.: Investigation of Dike-Related Topography at Craters of the Moon National Monument and Preserve, Idaho, Using Unpiloted Aerial Vehicles. *51<sup>st</sup> Lunar and Planetary Science Conference*, 2020, #1501, Houston, TX, USA.
3. **Owens, C. A.**: Geologic History and Lava-Fracture Interaction at King’s Bowl, Craters of the Moon National Monument, Idaho. 2020 Center for Undergraduate Research Opportunities Symposium. Athens, GA
4. Schroeder, P.A., D. D. Richter, and **S.C. Sanders** (2020) Degradation of micas and the formation of kaolinite layers: Potential influences on potassium uplift in temperate ecosystems. Clay Minerals Society Annual Meeting, Program with abstracts. Richland WA
5. Schroeder, P.A. D.D. Richter, and **S.C. Sanders** (2020) The fate of degraded micas in the deep critical zone: Pathways to the formation of kaolinite and other secondary minerals in the S.E. US Piedmont. Geological Society of America Meeting, Northeastern/Southeastern section, Reston, VA.
6. **LaBriola, C.**, Walker, S.E., 2020 A Preliminary Test of the Mesozoic Marine Revolution Hypothesis Using Repair Scars on Cretaceous Oysters, Southern Atlantic Gulf and Coastal Plain. 69<sup>th</sup> annual Southeastern Geological Society of America Abstracts with Programs, Vol. 52: doi: 10.1130/abs/2020SE-343149.
7. **Labriola, C.** 2020. Preliminary Test of the Mesozoic Marine Revolution Hypothesis Using Repair Scars on Cretaceous Oysters, Southern Atlantic Gulf and Coastal Plain, Center for Undergraduate Research Opportunities Symposium. Athens, GA.
8. **Farmer, K**, Walker, S.E., and Bowser, S.S., 2020 Population and size distribution of *Cibicides antarcticus* on *Adamussium colbecki* within Explorers Cove, Antarctica. 69<sup>th</sup> annual Southeastern Geological Society of America Abstracts with Programs, Vol. 52: doi: 10.1130/abs/2020SE-343189.
9. **Parsons, L.**, Walker, S.E., Thompson, V., and Lulewica, I., 2019 Archaeological midden scallops as a key to how climate may affect food resources at the Pineland site (A.D 850 to 1850), southwestern Florida. Geological Society of America Abstracts with Programs. *Vol. 51*: doi: 10.1130/abs/2019AM-334358.

## Undergraduate Department Awards

### Outstanding Field School Students 2020

Taylor Combs  
Sarah Beth Hood

### Outstanding Undergraduate Students 2019-2020

Cash Owens  
Sydney Shatz

# Graduate Student Accolades

## 2020 Graduates

### Ph.D.

1. **Garett Brown**, “Beyond water depth: the environmental controls on marine benthic invertebrate assemblages in the modern and fossil record”, Ph.D., Holland
2. **Melanie Callihan**, “Growth of complex fracture systems in extensional tectonic settings on Earth and the Moon with applications to tectonic geomorphology, fault rock evolution, and dike emplacement.”, Ph.D., Klimczak
3. **Chris Smith**, “Experimentally grown foraminifera and their response to heavy metal (arsenic, cadmium, nickel, and zinc) contamination”, Ph.D., Goldstein

### M.S.

1. **Lucas Novello Favero**, “Removal of oxyanionic species from coal combustion residuals: the case of boron and bromide”, M.S., Nzengung
2. **Barrett Jordan**, “Geology of the Calhoun Critical Zone Observatory”, M.S., Schroeder
3. **Gustavo Larramendi**, “Investigation of the late Paleozoic collision between Gondwana and Laurentia and the resulting deformational response of the upper mantle beneath the southern Appalachians using global phase seismic events.”, M.S., Hawman
4. **Sierra Ramsey**, “The Petrogenesis of Shergottites Constrained by Major and Minor Elemental Variations in Olivine”, M.S., Klimczak
5. **Sydney Lee**, “Testing two paleogeographic interpretations of the Jurassic of western North America”, M.S., Holland
6. **Andrew Clements**, “Investigation of rift basins and underlying crust beneath the southeastern Atlantic Coastal Plain using teleseismic phases”, M.S., Hawman

## Journal Publications or Technical Reports

1. **Cronin, K.**, Walker, S.E., Mann, R., Chute, A.S., Long, M.C., and Bowser, S.S. 2020. Growth and longevity of an ecosystem engineer, the Antarctic scallop *Adamussium colbecki* under annual and multi-annual sea ice. *Antarctic Science*. In Press
2. Milewski, A., Seyoum, W., Elkadiri, R., and **Durham, M.**, 2019, Multi-Scale Hydrologic Sensitivity to Climatic and Anthropogenic Changes in Morocco, *Geosciences*, 10(1), 13.
3. Milewski, A., **Creviston, M.**, Rasmussen, T., Moorman, M., and Faustini, J., 2020, Water Resource Inventory and Assessment: Caloosahatchee National Wildlife Refuge, U.S. Fish and Wildlife Service, Southeast Region. Atlanta, Georgia. 68 pp. + appendices.
4. Milewski, A., **Creviston, M.**, Rasmussen, T., Faustini, J., and Moorman, M., 2019, Water Resource Inventory and Assessment: Bond Swamp National Wildlife Refuge, U.S. Fish and Wildlife Service, Southeast Region. Atlanta, Georgia. 57 pp. + appendices.
5. Milewski, A., **Creviston, M.**, Rasmussen, T., Faustini, J., Moorman, M., and Sytsma, C., 2019, Water Resource Inventory and Assessment: Piedmont National Wildlife Refuge, U.S. Fish and Wildlife Service, Southeast Region. Atlanta, Georgia. 55 pp+ appendices.
6. **Rotz, R.**, A. Milewski, T.C. Rasmussen (2020). Numerical Modeling of Inland Freshwater Lens Formation and Evolution in Drylands. *Water* 12, 1154.
7. Milewski, A., K. Lezzaik, **R. Rotz** (2020). Sensitivity Analysis of the Groundwater Risk Index in the Middle East and North Africa Region. *Environmental Processes* 7, 53–71.
8. Milewski, A., **Richards, D. F., IV**, and Gregory, B. 2020. Cooperative Ecosystems Study Unit (CESU) Project: LiDAR-based Resource Management for National Park Services Sites within the Southeast Coastal Network (SECN). National Park Service
9. **Smith, C.W.**, Fehrenbacher, J.S., and Goldstein, S.T. 2020. Incorporation of heavy metals in experimentally grown foraminifera from Sapelo Island, Georgia and Little Duck Key, Florida, USA: *Marine Micropaleontology*, doi.org/10.1016/j.marmicro.2020.101850.
10. **Smith, C.W.**, and Goldstein, S.T. 2019. The effects of selected heavy metals on experimentally grown foraminiferal assemblages from Sapelo Island, Georgia and Little Duck Key, Florida, U.S.A.: *Journal of Foraminiferal Research*, 49:303-317.

## Presentations at Professional Meetings

1. **Brown, G.** 2019 Spatial heterogeneity of fossil assemblages and carbonate lithologies of the Lodgepole Formation (Tournaisian, Mississippian), southwestern Montana: Geological Society of America Annual Meeting, Phoenix, Arizona.

2. **Callihan M. B.**, Klimeczak C., Owens C. A., Lowe R. C. III, and Byrne P. K.: Investigation of Dike-Related Topography at Craters of the Moon National Monument and Preserve, Idaho, Using Unpiloted Aerial Vehicles. *51<sup>st</sup> Lunar and Planetary Science Conference*, 2020, #1501, Houston, TX, USA.
3. **Creveston, M.** A.Milewski, M. Moorman, J.M. Faustini (2019). Investigating the Relationship between Land Use and Land Cover and Water Resources in the Caloosahatchee River Watershed. American Geophysical Union Conference Abstracts with Programs.
4. **Demir, H.** and Schroeder, P.A., 2020 Principal components analysis of geochemical data and implications for the provenance of clay deposits from the Sile region, northwest Turkey Geological Society of America Abstracts with Programs. Vol. 52, No. 2 doi: 10.1130/abs/2020SE-344778
5. Gillikin, D.P., Camarra, S., Phualski, E., **Cronin, K.** and Walker, 2020 S.E., Nitrogen, carbon, and oxygen isotopes in the shell of the Antarctic scallop *Adamussium colbecki* as a proxy for sea ice cover in Antarctica. Goldschmidt Conference. Hawaii
6. **Cronin, K.**, Walker, S.E., Gillikin, D.P. and Bowser, S.S. 2020 Trace elements in the Antarctic scallop *Adamussium colbecki* as sea-ice proxies. American Association for the Advancement of Science (AAAS) Abstracts with program .
7. Camarra, S., Puhalski, E., Gillikin, D., **Cronin, K.**, and Walker, S.E. Nitrogen and oxygen isotopes in the shell of the Antarctic scallop *Adamussium colbecki* as a proxy for sea-ice cover in Antarctica. *Geological Society of America Abstracts with Programs 51*: doi: 10.1130/abs/2019AM-338279. 2019
8. **Cronin, K.**, Walker, S.E., Gillikin, D., Bowser, S.S., The Antarctic scallop *Adamussium colbecki* as a proxy for sea-ice duration in Antarctica, Geological Society of America Abstracts with Programs 51: doi: 10.1130/abs/2019AM-340824. 2019
9. **Cronin, K.** Trace elements and interstitial distances as environmental and anthropogenic proxies in the Antarctic Scallop, *Adamussium colbecki*. 11<sup>th</sup> North American Paleontological Conference Program with Abstracts, *PaleoBios* 36: 112–113. 2019
10. **Cheng H. C. J.**, and Klimeczak, C.: Opening-Mode Fractures are an Alternative Explanation for Large-Scale Troughs on Asteroid 4 Vesta. *51<sup>st</sup> Lunar and Planetary Science Conference*, 2020, #1002, Houston, TX, USA.
11. **Donaldson, Y.**, J. Cambeiro, G. Pope, P. O’Neill, G. Mount, K. Keating, S. Brantley, and J. Nyquist. Characterizing the Subsurface of the Critical Zone in the Garner Run Catchment at the Susquehanna Shale Hills Critical Zone Observatory using Electrical Resistivity. Washington DC AGU Conference, December 2018.
12. J. Camberio, A. Tarzona, **Y. Donaldson**, G. Pope, P. O’Neill, J. Hayes, G. Mount, K. Keating, S. Brantley, and J. Nyquist. Imaging the critical zone structure using seismic refraction in Garner Run at the Susquehanna Shale Hills Critical Zone Observatory. Washington DC AGU Conference, December 2018.
13. **Dupont, L.A.**, Railsback, L.B., Brook, G.A., Liang, F., Cheng, H., Edwards, R.L., 2019, Investigating paleoenvironmental change during the Holocene using a stalagmite from Matupi Cave, equatorial Africa: Geological Society of America Annual Meeting, Phoenix, Arizona.
14. **Fackrell, L.** and P.A. Schroeder 2019 Volatile Salts in Mars Regolith: A Blessing and a Curse. American Geophysical Union, San Francisco, CA



15. **Jordan, B.C.** 2020 delineating the central piedmont suture in Union County, South Carolina. Geological Society of America Abstracts with Programs. Vol. 52, No. 2 doi: 10.1130/abs/2020SE-345274
16. **Ramsey, S.**, Howarth, G. H., Gross, J., Udry, A.: Major and Minor Element Variations in Olivine in Shergottites to Determine Source Lithology. 51<sup>st</sup> Lunar and Planetary Science Conference, 2020, #1447, Houston, TX, USA.
17. **Richards IV, D.F.** A.M. Milewski, B. Gregory (2019). Exploring the Coastal Dynamic Response Along the Southeastern US Coast and Morocco. American Geophysical Union Abstracts with Programs
18. **Richards IV, .F.** A.M. Milewski, B. Gregory (2019). The Spatial and Temporal Characterization of the Coastal Southeastern USA using Airborne LiDAR. National Association of Black Geoscientists Conference
19. **Richards IV, .F.** A.M. Milewski, B. Gregory (2019). Coastal Geomorphology Change and Spatial Characterization using Airborne LiDAR Along the Southeast Florida Coastline. Georgia Water Resources Conference
20. **Rotz, R. A.** Milewski, R. Craddock, A. Morgan, and D. Leigh (2019). Investigation of Linear Dune Erosion and Lacustral Events in the Simpson Desert, Australia during the Late Quaternary. American Geophysical Union Abstracts with Programs, H11N-1706.
21. **Rotz, R. A.** Milewski, T.C. Rasmussen (2019). Numerical Modeling of Inland Freshwater Lens Formation and Evolution in Drylands. Geological Society of America Abstracts with Programs, Vol. 51, No. 5.
22. **Smith, C.W.**, Fehrenbacher, J.S., and Goldstein, S.T. 2019. Incorporation of heavy metals in experimentally grown foraminifera from Sapelo Island, Georgia and Little Duck Key, Florida, USA; Geological Society of America Annual Meeting, (Phoenix, AZ), 51(5): doi: 10.1130/abs/2019AM-331649.

## **External Funding/Recognitions**

### **Alliance for Weedon Island Archaeological Research and Education, Inc. (AWIARE)/Levitt Foundation Grant:**

Lindsey Parsons: The use of taphonomic and stable isotopic analysis in archaeological scallop deposits as a key to how native coastal communities harvesting practices were affected by climatic change (A.D. ~800–1850), southwestern Florida \$10,000

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### **UGA Center for Teaching and Learning**

Kelly Cronin: Future Faculty Fellow

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### **North American Paleontological Convention, Riverside, California**

Kelly Cronin: Co-organized symposium on Antarctic ecosystems and climate change

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**Louis Stokes Alliance for Minority Participation (LSAMP) Bridge to the Doctorate  
Fellowships, National Science Foundation (2019)**

Yonesha Donaldson  
David F. Richards IV

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**Farouk El-Baz Student Desert Research Award GSA Foundation**

Rachel Rotz

\*

**Beta Sigma Chapter of Delta Kappa Gamma Georgia State Organization Scholarship  
Grant**

Rachel Rotz

\*

**Delta Kappa Gamma International Society for Women Educators - Virginia Macagnoni  
Grant**

Rachel Rotz

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**SEGS-Southeastern Geological Society Student Research/Field Work Grant**

David F. Richards IV

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**Geopaths Near Surface Geophysics Field Mentor- Shale Hills Critical Zone Observatory  
(CZO), National Science Foundation (2019)**

Yonesha Donaldson

**Internal UGA Geology Funding**

**Miriam Watts-Wheeler Research Scholarships  
Fall 2019 • Spring 2020**

Laura Fackrell  
Bear Jordan  
Abdullah al-Nahian  
Cleveland Tarp  
Huseyin Demir  
Steffan Becker

**Miriam Watts-Wheeler Travel Scholarships  
Fall 2019 • Spring 2020**

Garett Brown  
Max Deckman  
Laura Dupont  
Chris Smith  
Kelly Cronin  
Yonesha Donaldson  
David Richards  
Melissa Creviston

Rachel Rotz  
Laura Fackrell  
Melanie Callihan  
Sierra Ramsey  
Jupiter Cheng  
Laura Fackrell  
Huseyin Demir

**Gilles and Bernadette Allard Geology Award 2019-2020**

Anik Regan  
Max Deckman  
Samantha Khatri

**Outstanding Teaching Assistant Award 2019-2020**

Laura Fackrell  
Melanie Callihan

**Outstanding Ph.D. Student of the Year 2019-2020**

Rachel Rotz

**Outstanding M.S. Student of the Year 2019-2020**

Barrett “Bear” Jordan

**Alumni Accolades**

**Outstanding Young Alumni Award**

Devon Verellen

**Distinguished Alumni Award**

Skip Forsthoff

# Faculty Accolades

## Fund Raising & Alumni Engagement

Dr. Doug Crowe  
Dr. Steve Holland

## Professor of the Year

Dr. Steve Holland

## Teacher of the Year

Dr. Doug Crowe

## Halbouty Endowed Visiting Chair

Dr. Sally E. Walker - Professorship

## National Academy of Inventors

Dr. Valentine Nzengung - Fellow

## Promotion and Tenure

Dr. Christian Klimczak - Associate Professor

## New/Renewed Grants

**Dr. Rob Hawman:** Vp/Vs Structure of the Crust and Reflection Fabric of the Upper Mantle beneath the Southern Appalachians using Teleseismic and Global Phases. National Science Foundation, (2018-2020)

**Dr. Adam Milewski:** Hydrologic and Landscape Analysis within the Southeast, National Fish and Wildlife Service, (2018-2022)

**Dr. Adam Milewski:** Design, Integrate, and Apply: Using Unmanned Aerial Vehicles for Enhanced Student Learning, UGA Learning Technologies Grants, (2018-2019)

**Dr. Adam Milewski:** Ground Validation of Remote Sensing-based Precipitation Products in Kuwait, Kuwait University, (2018-2019)

**Dr. Valentine Nzungu:** Development and Evaluation of Methods for the Immobilization of Metals and Non-Metals in Coal Combustion Residuals. Duke Energy (2018-2020)

**Dr. Paul Schroeder:** Human and Natural Forcings of Critical Zone Dynamics and Evolution at The Calhoun Critical Zone Observatory. National Science Foundation, (2013-2021)

**Walker, S.E.** Collaborative Research: The Antarctic Scallop as Key to Paleoenvironments and Sea Ice Conditions: Understanding the Modern to Predict the Past, NSF Office of Polar Programs (2018–2021)

## **Staff Accolades**

*A Group of High Performing Individuals*

Rachel Ashton  
Ashley Arnold  
Catherine Moore  
Julie Cox  
Michael Lewis  
Chris Fleisher

Hourly workers

Telia Garner  
Savannah Rathbun  
Sarah Olmstead  
Megan McPherson

## **Recognition of Geology Club**

*2019-2020 Officers*

Kelsey Luke & Sydney Shatz – Co-Presidents  
Catherine Labriola – Vice President and Treasurer

