



Department of Geology Awards

April 30, 2021

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 Coordinators

Dr. Steve Holland

Dr. Adam Milewski

Franklin College Faculty Senator

Dr. Steve Holland

Geology Alumni Advisory Board

Mr. Grant Eager, Chair

US Vulcan Materials Co.

Mr. Ed Moritz

President, Gustavson Associates

Ms. Charlotte Abrams

Nuclear Regulatory Commission

Mr. Daven Mashburn

Senior Exploration Manager, Newmont
Gold

Mr. Jeff Blackmon

Project Manager, Newmont Gold

Dr. Wes Myers

Los Alamos National Laboratory

Mr. Skip Forsthoff

Consultant Geologist Chevron

Mr. Jim Redwine

Senior Managing Scientist
Anchor QEA, LLC

Mr. Ken Gillon

Consultant

Dr. James Saunders

Professor of Geology, Auburn University

Mr. Alex Glover

Consultant

Mr. Jeff Shellebarger

Retired, Chevron NA Exploration and
Development

Mr. Frank Lieth

US Vulcan Materials Co.

Undergraduate Accolades

B.S. / A.B. Recipients
Fall 2020 – Spring 2021 – Summer 2021

Steven Bishop
Cole Eck
Kirsten Farmer
Caitlyn Holmes
Frank Holmes
Hampton Hotard
Katelyn LaPine
Kelsey Luke
Chase Maughon
Christina Milcheck
Jessica Mitchell
Raquel Oliva
Sarah Olmstead
Emma Patterson
Savannah Rathbun

External Awards

American Institute of Professional Geologists Georgia Section: Student Scholarship 2021

Caroline Hiott

Senior Theses/Research and/or CURO

1. **Kristen Farmer**, Population and size distribution of *Cibicides antarcticus* on *Adamussium colbecki* within Explorers Cove, Antarctica (Walker)
2. **Caitlyn L. Holmes** Sample processing for cosmogenic nuclide erosion rates at the Calhoun Critical Zone Observatory (Schroeder and Darling)
3. **Hampton Hotard**, Shark teeth forensics (Walker)
4. **Catherine Labriola**, A Preliminary Test of the Mesozoic Marine Revolution Hypothesis Using Repair Scars on Cretaceous Oysters, Southern Atlantic Gulf and Coastal Plain (Walker)
5. **Katelyn E. LaPine**, An Inventory and Assessment of Banks Lake National Wildlife Refuge (Milewski)

6. **Raquel Oliva.** An Inventory and Assessment of Banks Lake National Wildlife Refuge (Milewski)
7. **Emma D. Patterson:** Sample processing for cosmogenic nuclide erosion rates at the Calhoun Critical Zone Observatory (Schroeder and Darling)

Presentations at Meetings

1. **Catherine LaBriola,** 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. University of Georgia CURO symposium.
2. Laura E. Hanawalt, Michael P. Cuilik, **Rebeckah S. Hufstetler,** and Robert B. Hawman (2021). Structure of the lithosphere across the Appalachian Orogen: Reflection profiling using earthquakes (abstract), Southeastern Section of the Geological Society of America, Auburn University.
3. **Jay Mrazek** and Adam M. Milewski 2021. Historical Analysis of Groundwater Times in Georgia, CURO Symposium, April 2021.
4. **Raquel Oliva, Katelyn E. LaPine, Sarah Asher,** Adam M. Milewski, Todd Rasmussen (2021). An Inventory and Assessment of Banks Lake National Wildlife Refuge. Georgia Water Resources Conference.
5. **Rebeckah Hufstetler,** 2020 Structure of the lithosphere across the Appalachians and central U.S. CURO symposium.

Undergraduate Department Awards

Outstanding Field School Students 2021

Field camp cancelled due to pandemic

Outstanding Undergraduate Students 2020-2021

**Cole Eck
Kelsey Luke
Sarah Olmstead**

Graduate Student Accolades

2021 Spring Graduates

Ph.D.

1. **Laura Fackrell**, Applications of Critical Zone Science in the Exploration of Mars, Ph.D., Advisor: Schroeder

M.S.

1. **Huseyin Demir**, A new look at Sile clay deposits, eastern Istanbul: detailed characterization and provenance. M.S., advised by Schroeder
2. **Laura Dupont**, A multi-proxy stalagmite record of paleoenvironmental change in equatorial Africa during the African Humid Period. M.S., advised by Railsback
3. **Peter Steiner**, Nutrient Cycling Of Potassium In The Critical Zone During Periods Of Changing Land Use. M.S., advised by Schroeder
4. **Cleveland Tarp**, Hydrograph analysis techniques for ephemeral and intermittent transmission loss modeling. M.S., advised by Milewski
5. **Işık Su Yazıcı**, Using plan-form impact crater shapes to investigate tectonic patterns on Mercury. M.S., advised by Klimczak

2020 Summer and Fall Graduates

Ph.D.

1. **Rachel Rotz**, Geomorphic-geologic indicators of zones of hydrologic flux in drylands on Earth and Mars, Ph.D., advised by Adam Milewski.
2. **Kelly Cronin**, The effects of sea-ice duration on the growth and shell chemistry of the Antarctic scallop *Adamussium colbecki*. Ph.D., advised by Sally Walker.

M.S.

1. **Yonesha Donaldson**, Identification of inland freshwater lenses in central Florida using remote sensing, GIS geospatial-based prediction analysis, and random forest machine learning algorithm. M.S., advised by Adam Milewski.
2. **Melissa Medley**, Investigation of hydrology and climate of National Wildlife Refuges in Florida using water resource inventories and assessments. M.S., advised by Adam Milewski.

Journal Publications or Technical Reports

1. **Cronin, K.**, Walker, S.E., Bowser, S.S. 2021 Striae in the Antarctic scallop *Adamussium colbecki* provide environmental insights but not reliable age increments. *Polar Biology*: <https://doi.org/10.1007/s00300-021-02830-7>
2. **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* 32: 466–475.
3. **Crumpacker, William**, 2021, Removal of Boron And Bromide from Coal Combustion Residual Wastewater using Chemical Precipitation and Filtration. Proceedings of the 2021 Georgia Water Resources Conference, held March 22–23, 2021, at the University of Georgia Center for Continuing Education.
4. Railsback, L.B., **Dupont, L.A.**, Liang, F., Brook, G.A., Burney, D.A., Cheng, H., Edwards, R.L., 2020. Relationships between climate change, human environmental impact, and megafaunal extinction inferred from a 4000-year multi-proxy record from a stalagmite from northwestern Madagascar. *Quaternary Science Reviews* 234, 106244 (14 pp.).
5. **Fackrell, Laura E.**, Paul A. Schroeder, Aaron Thompson, Karen Stockstill-Cahill, Charles A. Hibbitts, (2021) Development of Martian regolith and bedrock simulants: Potential and limitations of Martian regolith as an in-situ resource, *Icarus*, Volume
6. **Fackrell, Laura E.**, Paul A. Schroeder, **Huseyin Demir**, and **Rachel R. Rotz** (2020) A Critical Zone Approach to the Study of Mars. Planetary Science and Astrobiology Decadal Survey White Paper. *Lunar and Planetary Institute*. <https://www.nationalacademies.org/our-work/planetary-science-andastrobiology-decadal-survey-2023-2032>.
7. **Verellen, Devon N.**, **Erik C. Alberts**, **Gustavo A. Larramendi**, **E. Horry Parker, Jr.**, and Robert B. Hawman (2020). P-wave reflectivity of the crust and upper mantle beneath the Southern Appalachians and Atlantic Coastal Plain using global phases, *Geophysical Research Letters*, 47, <https://doi.org/10.1029/2020GL089648>.
8. Milewski, A., **Asher, S.**, Moorman, M., Rasmussen, T., and Faustini, J., 2020, Water Resource Inventory and Assessment: Tallahatchie National Wildlife Refuge, U.S. Fish and Wildlife Service, Southeast Region. Atlanta, Georgia. 51 pp. + appendices.
9. Milewski, A., **Asher, S.**, Moorman, M., Rasmussen, T., and Faustini, J., 2020, Water Resource Inventory and Assessment: Coldwater River National Wildlife Refuge, U.S. Fish and Wildlife Service, Southeast Region. Atlanta, Georgia. 46 pp. + appendices.
10. Milewski, A., **Asher, S.**, Moorman, M., Rasmussen, T., and Faustini, J., 2020, Water Resource Inventory and Assessment: Dahomey National Wildlife Refuge, U.S. Fish and Wildlife Service, Southeast Region. Atlanta, Georgia. 47 pp. + appendices.
11. Klimczak, C., Beddingfield, C., Byrne, P. K., **Cheng, H. C. J.**, Crane, K. T., and Annex, A. +28 signatories: Opportunities and Challenges for Structural Geology and Tectonics in the Planetary Sciences. Planetary Science and Astrobiology Decadal Survey White Paper. *Lunar and Planetary Institute*. <https://www.nationalacademies.org/our-work/planetary-science-andastrobiology-decadal-survey-2023-2032>

Presentations at Professional Meetings

1. **Cronin, K.E.**, Gillikin, D.P., Walker, S.E., Camarra, S., Puhalski, E., Bowser, S.S., 2020 Oxygen and carbon stable isotopes in *Adamussium colbecki*: $\delta^{13}\text{C}$ proxy for sea-ice persistence? Geological Society of America Abstracts with Programs. Vol 52, No. 6 doi: 10.1130/abs/2020AM-357341 National talk
2. **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.
<https://aaas.confex.com/aaas/2020/meetingapp.cgi/Session/25687>
3. **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. Geological Society of America Abstracts With Programs. Vol 52, No. 6 2020 doi: 10.1130/abs/2020AM-353437 Undergraduate national poster
4. **Farmer, K.**, Walker, S.E., and Bowser, S.S., 2020. Population and size distribution of *Cibicides antarcticus* on *Adamussium colbecki* within Explorers Cove, Antarctica. Geological Society of America Abstracts with Programs. Vol 52, No. 6 doi: 10.1130/abs/2020AM-352890 Undergraduate national poster
5. **Laura E. Hanawalt, Michael P. Cuilik**, Rebeckah S. Hufstetler, and Robert B. Hawman (2021). Structure of the lithosphere across the Appalachian Orogen: Reflection profiling using earthquakes (abstract), Southeastern Section of the Geological Society of America, Auburn University, April 1, 2021.
6. **Cheng H. C. J.**, Klimczak, C., and Fassett C. I.: Age relationships of large-scale troughs and impact basins on Vesta. 52nd Lunar and Planetary Science Conference, 2021, #1014, virtual meeting.
7. **Cheng H. C. J.**, and Klimczak, C.: Systematic fracture pattern on Vesta revealed by polygonal impact craters. 52nd Lunar and Planetary Science Conference, 2021, #1015, virtual meeting.
8. **Cheng H. C. J.**, and Klimczak, C.: The large-scale troughs on Asteroid 4 Vesta are opening-mode fractures. EGU General Assembly, 2021, online, 19–30 Apr 2021, EGU21-79.
9. Hirabayashi M., Fassett, C. I., Montalvo, P., **Cheng H. C. J.** and Klimczak, C.: Efficient topographic degradation on Ceres as revealed by the equilibrium population of small craters. 52nd Lunar and Planetary Science Conference, 2021, #1585, virtual meeting.
10. **Crumpacker, William** 2021 Removal Of Boron And Bromide From Coal Combustion Residual Wastewater Using Chemical Precipitation And Filtration. 2021 Georgia Groundwater Resources Conference.
11. **Dupont, L.A.**, Railsback, L.B., Brook, G.A., Burney, D.A., Liang, F., **Voarintson, N.R.G.**, Cheng, H., Edwards, R.L., 2020, A multi-proxy stalagmite record of paleoenvironmental change in equatorial Africa during the African Humid Period. American Geophysical Union Annual Meeting, December 2020.
12. **Fackrell, L.E.** 2020 Goldschmidt Annual Meeting Oral Presentation Potential habitability of Mars based on experimentation and modeling of regolith simulants.
13. **Fackrell, L.E.** 2020 ASA, CSSA, and SSSA Annual Meeting Oral Presentation- Growing Plants on Mars- Potential and Limitations of Martian Soil as a Plant Growth Medium Based on Results from Analogue Studies

14. **Fackrell, L.E.** AGU 2020 Conference Poster Presentation- Phosphorous Availability in Mars Soil Analogues and Implications for Potential Habitability
15. **Yazıcı, I. S.,** and Klimczak, C.: Global fracture pattern on Mercury revealed by polygonal impact craters. 1st Annual Meeting of the Mercury Exploration Assessment Group, 2021, #6036, virtual meeting.
16. **Yazıcı, I. S.,** and Klimczak, C.: Global fracture pattern on Mercury revealed by polygonal impact craters. 52nd Lunar and Planetary Science Conference, 2021, #1395, virtual meeting.
17. **Yazıcı, I. S.,** and Klimczak, C.: Polygonal impact craters reveal a global fracture pattern on Mercury. EGU General Assembly, 2021, online, 19–30 Apr 2021, EGU21-3585.
18. **Hanawalt, Laura E., Michael P. Cuilik,** Rebeckah S. Hufstetler, and Robert B. Hawman (2021). Structure of the lithosphere across the Appalachian Orogen: Reflection profiling using earthquakes (abstract), Southeastern Section of the Geological Society of America, Auburn University, April 1, 2021.

External Funding/Recognitions

1. **Hui Ching Jupiter Cheng** 2020 Eugene M. Shoemaker Impact Cratering Award by the Planetary Geology Division of the Geological Society of America.
2. **Laura E. Fackrell** 2020 Sigma Xi Grant. Martian regolith as an *in-situ* resource: The challenge of growing plants on Mars.
3. **David F. Richards, IV** 2020 Geological Society of America Graduate Student Research Grant.
4. **Cleveland Tarp** 2020 Geological Society of America Graduate Student Research Grant.
5. **Max Deckman** 2021 Paleontology Society Student Research Grant

Internal UGA Geology Funding

Miriam Watts-Wheeler Research Scholarships Fall 2020 • Spring 2021

Sean Price: The identification of textural geochemical effects of melt percolation within both continental and oceanic ultramafic bodies

Sam Oxhorn: Western Aleutian volcanism: along-strike magmatic series transitions and differentiation of Kiska magmas

Alex Edwards: Elemental and lead isotope data analysis of bronze Colonial bells from Spanish Colonization Era

**Miriam Watts-Wheeler Travel Scholarships
Fall 2020 • Spring 2021**

Isik Su Yazici: Lunar and Planetary Science Conference and the EGU General Assembly.

Laura Dupont: AGU Annual Conference, A Multi-Proxy Stalagmite Record of Paleoenvironmental Change in Equatorial Africa during the African Humid Period

Gilles and Bernadette Allard Geology Award 2020-2021

Elliot Blake: Using sequence stratigraphy to predict vertebrate trackways in coastal settings: Jurassic Gypsum Spring and Sundance Formations, Bighorn Basin, Wyoming, U.S.A.

Joseph W. Berg Scholarship in Geophysics Fund - Spring 2021

Laura Hanawalt
Michael Cuilik
Rebeckah Hufstetler

Geology Department Faculty Meeting Representative 2020-2021

Hiu Ching Jupiter Cheng

Outstanding Teaching Assistant Award 2020-2021

Samantha Khatri
David F. Richards, IV

Outstanding Ph.D. Student of the Year 2020-2021

Laura Fackrell

Outstanding M.S. Students of the Year 2020-2021

Huseyin Demir
Laura Dupont

Alumni Accolades*

Outstanding Young Alumni Award

Peter Lanzarone. M.S. 2011

Distinguished Alumni Award

Margaret Frasier B.S. 1998

Elected to National Academy of Sciences

Harry Y. “Hap” McSween UGA - M.S. Geology

*Special thanks to Johnie Tucker and Debbie Daniel from the Franklin College Development Office for helping us keep touch with our Geology alumni.

Faculty Accolades

Retirements

Dr. Sue Goldstein
Dr. Alberto Patino-Douce
Dr. Jim Wright

Fund Raising & Alumni Engagement

Dr. Doug Crowe
Dr. Valentine Nzengung

Professor of the Year

Dr. Adam Milewski

Teacher of the Year

Dr. Rob Hawman

Shellebarger Professorship

Dr. Sally E. Walker

USG Chancellor Learning Scholar, University System of Georgia

Dr. Adam Milewski

Promotion

Dr. Adam Milewski - Professor

History of Geology at UGA

Dr. Bruce Railsback

<https://geology.uga.edu/history-university-georgia-department-geology>

New/Renewed Grants

Dr. Adam Milewski and Dr. Charlotte Garing: Collaborative Research (IRES Track I): A Multi-Faceted Approach for Understanding Hydrologic Controls on Transmission Losses in Dryland Environments, National Science Foundation, (2020-2023)

Dr. Adam Milewski: UAV-based Analysis of Coastal Salt Marshes, National Park Service, (2020-2021)

Dr. Adam Milewski: Building a Bridge to Planetary Science Research – Investigating Fluvial & Aeolian Interactions in Hyper-Arid Deserts, UGA Franklin College, (2020-2022)

Dr. Erv Garrison: NSF grant to assess the potential of scour nuclei for the discovery of submerged prehistoric archeological sites on the inner- to mid-continental shelf in the Georgia bight (2020-2023)

Dr. Valentine Nzengung: Development and Evaluation of Methods for the Immobilization of Metals and Non-Metals in Coal Combustion Residuals. Duke Energy (2018-2021)

Dr. Sally Walker, 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)

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 (2018-2021)

Dr. Mattia Pistone: Petrophysics of the Melt Connectivity Transition: Petrological, Rheological, and Seismic Characterisation of the Continental Moho (Swiss NSF Transfer) (2020-2021)

Staff Accolades

A Group of High Performing Individuals

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

Hourly workers

Savannah Rathbun
Sarah Olmstead
Caroline Hiott

***Retired! Thanks for the years of dedication to the Geology Department**

Recognition of Geology Club

2020-2021 Officers

Kelsey Luke - President
Sarah Olmstead- Vice President
Savannah Rathbun- Social Media Coordinator
Emma Patterson - Treasurer
Caroline Hiott and Steffan Becker - Recruitment Officers

