Department of Geology Awards Ceremony

Friday, April 26, 2019

University of Georgia

Alumni Advisory Board Members

Mr. Frank Lieth, Chair
Director, Geological Services, US Vulcan Materials Co.

Ms. Charlotte Abrams
Nuclear Regulatory Commission

Mr. Jeff Blackmon
Project Manager, Newmont Gold

Mr. Skip Forsthoff
Consultant Geologist
Chevron

Mr. Grant Eager
Vulcan Materials Co.

Mr. Ken Gillon
Consultant

Mr. Ed Moritz
President, Gustavson Associates

Mr. Daven Mashburn
Senior Exploration Manager, Newmont Gold

Dr. Wes Myers
Los Alamos National Laboratory

Mr. James Nutaitis
Geologist, BHP Billiton

Mr. Jim Redwine
Senior Managing Scientist
Anchor QEA, LLC

Dr. James Saunders
Professor of Geology, Auburn University

Mr. Jeff Shellebarger
President, Chevron NA Exploration and Development

Undergraduate Accolades

B.S. / A.B. Recipients
Fall 2018 – Spring 2019 – Summer 2019

Tyler Cannida
Gian Cella
Taylor Combs
Cason Dowdy
Houston Luke
Noah McCarthy
Lindsey Parsons
Daniel Pile
Trez Rice
Sophia Sanders
Skip Sleister
Hayden Souder
Patrick Trent

External Awards

AAPG Imperial Barrel Award
First Place Eastern Region

Cash Owens
Trez Rice
Sydney Lee
Sydney Shatz
Gustavo Larramendi

American Institute of Professional Geologists
Georgia Section: Student Scholarship 2018 & 2019

Gian Cella
Sophia Sanders

Senior Theses/Research & CURO

Tyler Cannida: "Petrography of the Gneisses from the Mary Lou Quarry in Clinton, SC: Implications for Quantifying Mineral Compositions in the Critical Zone. Stage 2" (Schroeder)

Jared Conner: "Removal of Nutrients from Agricultural Wastewater by Modified Biochar" (Nzengung)

Lindsey Parsons: "Kitchen Midden Scallops as a Key how Climate may Affect Calusa Occupation of the Pineland Site (~800-1500AD), Southwestern Florida" (Walker)

Trez Rice: "The Resilience of Appalachian Topography: A Geophysical Analysis of the Root Structure of the Southern Appalachians" (Hawman)

Sophia Sanders: "The fate of degraded biotites in the deep critical zone: Implications for the K-uplift hypothesis" (Schroeder)

Skip Sleister: "Testing for Changes in Provenance in the Marine Jurassic of Wyoming and Utah" (Holland)

Patrick Trent: "Petrographic Analysis of Altered Units in the Bishop Tuff, Bishop, CA" (Klimczak)

Presentations at Professional Meetings

Jared Conner: "Removal of Nutrients from Agricultural Wastewater by Modified Biochar". 2018 Oconee River Symposium, UGA. (Nzengung)

Skip Sleister: "Testing for Changes in Provenance in the Marine Jurassic of Wyoming and Utah". Geological Society of America Southeastern Section Meeting, Spring 2019. (Holland)

Trez Rice & Houston Luke: Wide-angle reflection mapping and P-wave velocity analysis of the South Georgia Basin and root of the Appalachian Mountains, Southeastern Section of the Geological Society of America, Annual Meeting, Charleston, SC, March 28-29, 2019. (Hawman)

Funding and Awards

Newmont
Field School Scholarships

Taylor Combs
Sarah Olmstead
Matthew Prausa
Irene Valli

Outstanding Field School Student
2018

Cash Owens
Sydney Shatz
Sophia Sanders

Outstanding Undergraduate Students
2018-2019

Sophia Sanders
Trez Rice
Tyler Cannida

Graduate Student Accolades

2019 Graduates

Ph.D.

Kelsey Crane: "Thrust Faulting on the Terrestrial Planets: Structural and Tectonic Studies of Mercury and the Columbia River Basalt Province." (Klimczak)

Pedro Monarrez: "Testing the Role of Escalation on Jurassic Macroevolutionary Patterns." (Holland)

M.S.

Matt Hess: "Sequence-Stratigraphic Architecture and Facies of the Middle to Upper Jurassic Preuss and Stump Formations" (Holland)

Holly Hutcheson: "Trends in Water Resources within the USFWS National Wildlife Refuges in the Southeast" (Milewski)

William Jenkins: "Investigating Patterns and Kinematics of Faults and Associated Fumarolic Activity Atop a Blind Strike-Slip System, Bishop Tuff, CA" (Klimczak)

Sierra Swenson: "Integrated sequence stratigraphy and paleobiology of the Ellis Group

of Montana: Implications for the history and communities of the Sundance Seaway" (Holland)

Matthew Thomas: "Spatial Downscaling of GRACE TWSA Data to Identify Spatiotemporal Groundwater Level Trends in the Dougherty Plain, South Georgia" (Milewski)

Journal Publications

Cook Hale, Jessica and Ervan G. Garrison (2018). Spatial statistical analysis of coastal plain Paleoindian site distributions and paleoecology: Implications for the search for offshore submerged sites in Georgia. Early Georgia, 45 (1 & 2): 167-180.

Brouillette Price, E., Kabengi, N., and Goldstein, S.T. (2019). Effects of heavy-metal contaminants (Cd,Pb, Zn) on benthic foraminiferal assemblages grown from propagules, Sapelo Island, Georgia (USA): Marine Micropaleontology, 147:1-11. doi.org/10.1016/marmicro.2019.01.004

Callihan, M. B., and Klimczak, C.: Topographic Expressions of Lunar Graben. Lithosphere 11, 294-305, 2019. doi:10.1130/L1025.1.

Crane, K. T., and Klimczak, C.: Tectonic Patterns of Shortening Landforms in Mercury's Northern Smooth Plains. Icarus 317, 66-80, 2019. doi:10.1016/j.icarus.2018.05.034

Klimczak, C., Kling, C. L., and Byrne P.K. (2018). Topographic Expressions of Large Thrust Faults on Mars. Journal of Geophysical Research (Planets), 123, 1973–1995. doi:10.1029/2017JE005448.

Klimczak, C., Crane, K. T., Habermann, M.A., and Byrne P. K. (2018): The spatial distribution of Mercury's pyroclastic activity and the relation to lithospheric weaknesses. Icarus 315, 115–123. doi:10.1016/j.icarus.2018.06.020.

Rotz, R. R., and Milewski, A. (2019), Physical modeling of inland freshwater lens formation and evolution in drylands, Hydrogeology, 1-14.

Rotz, R., and Milewski, A. (2018). Investigating Inland Freshwater Lens Dynamics in Response to Recharge Rate Utilizing a Physical Hydrologic Model, Hydrogeology, In Press.

Kamalakanta, S., Milewski, A., Mani, S., Hoghooghi, N., and Panda, S. (2019), Assessment of Miscanthus Yield Potential from Strip-mined Lands (SML) and its Impacts on Stream Water Quality, Water, 11(3), 546

Seyoum W., Kwon, D., and Milewski, A. (2019), Downscaling GRACE TWSA Data into High-resolution Groundwater Level Anomaly using Machine Learning-based Models in a Glacial Aquifer System, Remote Sensing, 11(7), 824

Wehbe, Y., Temimi, M., Ghebreyesus, D., Milewski, A., and Norouzi, H. (2018), Consistency of Precipitation Products over the Arabian Peninsula and Interactions with Soil Moisture and Water Storage, Hydrological Sciences, v. 63 (3), 408-425.

Lezzaik, K., Milewski, A., and Mullen, J. (2018), The Groundwater Risk Index: Development and Application in the Middle East and North Africa Region, Science of the Total Environment, v. 628-629, 1140-1164.

Lezzaik, K., and Milewski, A. (2018). A Quantitative Assessment of Groundwater Resources in the Middle East and North Africa Region, Hydrogeology, 26:251

Cahalan, M., and Milewski, A. (2018). Sinkhole Formation Dynamics and Geostatistical-Based Prediction Analysis in a Mantled Karst Terrain, CANTENA , v. 165, 333-344.

Matthew B. Thomas, Adam Milewski, Wondwosen Seyoum, Todd Rasmussen (2019). "Spatial Downscaling of GRACE TWSA Data to Identify Spatiotemporal Groundwater Level Trends in the Upper Floridan Aquifer, Georgia, USA." Remote Sensing. In Review.

L. Bruce Railsback, Fuyuan Liang, G.A. Brook, Ny Riavo G. Voarintsoa, Hillary R. Sletten, Eugene Marais, Ben Hardt, Hai Cheng, R. Lawrence Edwards (2018), The timing, two-pulsed nature, and variable climatic expression of the 4.2 ka event: a review and new high-resolution stalagmite data from Namibia: Quaternary Science Reviews 186, 78–90.

L. Bruce Railsback, George A. Brook, Fuyuan Liang, Ny Riavo G. Voarintsoa, Hai Cheng, R. Lawrence Edwards (2018). A multi-proxy climate record from a northwestern Botswana stalagmite suggesting wetness late in the Little Ice Age (1810-1820 CE) and drying thereafter in response to changing migration of the tropical rain belt or ITCZ: Palaeogeography, Palaeoclimatology, Palaeoecology, v. 506, p. 139-153.

Ny Riavo G. Voarintsoa, Ilkka S. O. Matero, L. Bruce Railsback, Lauren J. Gregoire, Julia Tindall, Louise Sime, Hai Cheng, R. Lawrence Edwards, George A. Brook, Gayatri Kathayat, Xianglei Li, Amos Fety Michel Rakotondrazafy, Marie Olga Madison Razanatseheno, 2019. Investigating the 8.2 ka event in northwestern Madagascar: Insight from data-model comparisons. Quaternary Science Reviews, 204, 172-186.

Presentations at Professional Meetings

Craddock, R.A., Corbin Kling, Stephen Tooth, Alex Morgan, Rachel Rotz, Adam Milewski (2018). Temporal Changes in Linear Dunes located in the Simpson Desert, central

Australia. Geological Society of America Abstracts with Programs, Vol. 50, No. 6.

Milewski, A., Rachel Rotz, Ahmad Al-Dousari, David Richards, Abigail Knapp, Matthew Thomas, Holly Hutcheson, and Michael Durham (2018). Evaluation of GPM IMERG and TRMM TMPA Precipitation Estimates in the Continental United States and Kuwait. American Geophysical Union Abstracts with Programs, Ref. H43F-2475.

Rotz R. and Adam Milewski (2018). Numerical Modeling of Inland Freshwater Lens Formation and Transient Evolution Induced by Focused Recharge in Drylands. American Geophysical Union Abstracts with Programs, Ref. H34D-03.

Melissa Creviston, Adam Milewski, Holly Hutcheson, Todd Rasmussen, Michelle Moorman, John Faustini, Jeremy Conrad (2019). Land Use and Land Cover Change in the Caloosahatchee River Basin in Southern Florida. Georgia Groundwater Resources Conference Abstracts with Programs, P. 33.

Matthew Thomas, Adam Milewski, Wondwosen Seyoum, Todd Rassmussen (2018). Downscaling Satellite Gravimetry Data to Identify Drawdown Patterns in a Heavily Allocated Karst Aquifer. American Geophysical Union Abstracts with Programs, Ref. H51M-1479.

Holly Hutcheson, Matthew B. Thomas, Elizabeth Jachens, Joseph D. Hughes, David R. Stewart (2018). Evaluating the Need for Two-Way Groundwater-Surface Water Exchange Mechanisms in the National Water Model Over

the Northern High Plains Aquifer, USA. American Geophysical Union Abstracts with Programs, Ref. H41P-2339.

Adam Milewski, Rachel R. Rotz, Ahmad Al-Dousari, David Richards, Abigail Knapp, Matthew B. Thomas, Holly Hutcheson, Michael C. Durham (2018). Evaluation of GPM IMERG and TRMM TMPA Precipitation Estimates in the Continental United States and Kuwait. American Geophysical Union Abstracts with Programs, Ref. H43F-2475.

David F. Richards IV, Adam M. Milewski, Brian Gregory (2019). Coastal Geomorphology Change and Spatial Characterization using Airborne LiDAR Along the Southeast Florida Coastline. Georgia Water Resources Conference

David F. Richards IV, Adam M. Milewski, Brian Gregory (2018). Assessment of Southeastern Coastal Environments using Unmanned Aerial Vehicles (UAVs) and LiDAR. American Geophysical Union Abstracts with Programs

Adam Milewski, Rachel R. Rotz, Ahmad Al-Dousari, David Richards, Abigail Knapp, Matthew B. Thomas, Holly Hutcheson, Michael C. Durham (2018). Evaluation of GPM IMERG and TRMM TMPA Precipitation Estimates in the Continental United States and Kuwait. American Geophysical Union Abstracts with Programs, Ref. H43F-2475.

Y. Donaldson, 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.

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.

Larramendi, G. A., A. G. Clements, and R. B. Hawman, (2019), Investigation of the late Paleozoic collision in southern Georgia between Gondwana and Laurentia and the resulting deformational response of the upper mantle, Southeastern Section of the Geological Society of America, Annual Meeting, Charleston, SC, March 28-29, 2019.

Clements, A. G., G. A. Larramendi, and R. B. Hawman, (2019), Investigating rift basins and underlying crust beneath the southeastern Atlantic coastal plain using teleseismic phases recorded by the SESAME broadband array, Southeastern Section of the Geological Society of America, Annual Meeting, Charleston, SC, March 28-29, 2019.

Smith, C.W., and Goldstein, S.T. (2018), Effects of selected heavy metals on shallow-water benthic foraminiferal assemblages from Sapelo Island, Georgia and Littl Duck Key, Florida (USA): An investigation using the propagule method: International Symposium on Foraminifera 2018, Edinburgh, Scotland, June 17-22, 2018.

Invited Presentations

Rachel Rotz, 2019 Coastal College of Georgia, Department of Environmental Sciences

David F. Richards IV, Southeastern Coastal Network (SECN) Steering Committee and Board Meeting (2018), National Park Service

Of Note

Oral and Poster Session Conveners for 2019 Curo Symposium

Melanie Callihan
Kelsey Crane

Newmont Summer Intern Program

Lexy Bridges

Geopaths Near Surface Geophysics Field Mentor

Yonesha Donaldson

Graduate student representative at the UGA Alumni Award Banquet

Melanie Callihan

External Funding

Clay Minerals Society Research Grant

Laura Fackrell: "Development of Martian Regolith Simulants: In situ Resource Availability and Potential"

Planetary Geology Division Travel Award

Kelsey Crane

Louis Stokes Alliance for Minority Participation (LSAMP) Bridge to the Doctorate Fellowships, National Science Foundation (2018).

Yonesha Donaldson
David F. Richards IV

Internal Funding

Miriam Watts-Wheeler Research and Travel Scholarships
Fall 2018 • Spring 2019

Chris Smith: "Foraminiferal response to heavy metals: An examination of potential bio indicators and incorporation using the propagule method"

Laura Fackrell: "Development and amelioration of Martian regolith simulants. Potential and limitations of regolith as an in-situ resource"

Sydney Lee: "Testing three paleographic interpretations of Jurassic western North America"

Rachel Rotz: "Investigation of linear dune erosion and lacustral events in the Simpson Desert, Australia, during the Late Quaternary"

Garret Brown: "Testing for ecological gradients in the Lower Mississippian Lodgepole Formation, Montana, U.S.A"

Melissa Creviston: "Water Resources and Land Use and Land Cover Change in the Caloosahatchee River Basin"

David Richards: "Evaluating Coastal Subsidence in Southeast US using inSAR and UAVs"

Bear Jordan: "Sedalia North Quadrangle Mapping"

Laura Fackrell: 2018 GSA Annual Meeting.

Garett Brown: 2018 GSA Annual Meeting.

Kelly Cronin: 2018 GSA Annual Meeting.

Rachel Rotz: 2018 GSA Annual Meeting.

Pedro Monarrez: 2018 GSA Annual Meeting.

William Jenkins: 2018 GSA Annual Meeting.

Holly Hutcheson: 2018 AGU Fall Meeting.

Richard Hess: 2018 GSA Annual Meeting.

Sierra Swenson: 2018 GSA Annual Meeting.

David F. Richards IV: 2018 AGU Fall Meeting.

Matthew Thomas: 2018 AGU Fall Meeting

Kelsey Crane: 2018 GSA Annual Meeting.

Kelly Cronin: 2019 North American Paleontological Convention.

Gilles and Bernadette Allard Geology Award

Lexy Bridges: "Geochronology and Trace Element Geochemistry of the Long Canyon Gold Deposit. Northeastern Nevada"

Bear Jordan: "Investigation of the Cross Anchor Fault, a Peri-Gondwana suture in Calhoun, SC"

Outstanding Teaching Assistant Award

Kelly Cronin
Chris Smith

Outstanding PhD Student of the Year 2018-2019

Kelly Cronin
Kelsey Warden

Outstanding MS Students of the Year 2018-2019

Gustavo Larramendi

Outstanding Young Alumni Award

Erik Alberts

Distinguished Alumni Award

Frank Lieth

Faculty Accolades

Department Head
Dr. Paul Schroeder

Associate Department Head
Dr. Adam Milewski

Undergraduate Advisors
Dr. Doug Crowe
Dr. Rob Hawman

Graduate Coordinator
Dr. Alberto Patiño-Douce

Fund Raising & Alumni Engagement
Dr. Doug Crowe

Professor of the Year
Dr. Steve Holland

Teacher of the Year
Dr. Doug Crowe

First-Year Odyssey Teaching Award
Dr. Adam Milewski

USG Digital Campus e-Hero Award
Dr. Marta Patino-Douce

Halbouty Endowed Visiting Chair
Dr. Sally E. Walker

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 Nzengung: 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,
(2018-2019)

Walker, S.E. (Lead PI): "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 (2018–2020)

Staff Accolades

A Group of Extremely High Performing Individuals

Rachel Ashton
Cindy Fouche
Catherine Moore
Julie Cox
Michael Lewis
Chris Fleisher
Gian Cella
Patrick Trent

Noted:

Ashely Arnold- reclassification
Jay Austin- NSF-CZO Program

Recognition of Geology Club

2018-2019 Officers

Trez Rice & Sydney Shatz – Co-Presidents
Cash Owens – Trip Planner
Sophia Sanders - Treasurer