#### JONATHAN BOWMAN MARTIN

# Professor. Geological Sciences University of Florida

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#### **Education**

1993	Ph.D., Earth Sciences, Scripps Institution of Oceanography,
	University of California, San Diego
1987	M.S., Geology, Duke University, North Carolina
1980	B.A., Environmental Science, Wesleyan University, Connecticut

#### **Academic Positions**

4/24 -present	Distinguished Teaching Scholar
8/13-present	Associate Chair, Geological Sciences, UF
8/07-present	Professor, Department of Geological Sciences, UF
8/04-8/08	Courtesy Faculty, Oceanography and Coastal Sciences, LSU
8/00-8/07	Associate Professor, Department of Geological Sciences, UF
9/95-present	Affiliate Professor, School Natural Resources and Environment, UF
8/94-8/00	Assistant Professor, Department of Geological Sciences, UF
1/94-8/94	Geologist, USGS/ Research Fellow, UCSC
9/93-12/93	Post-Doctoral Researcher, UCSD/ Research Fellow, UCSC
9/87-9/93	Research/Teaching Assistant, UCSD
1/86-9/87	Research/Teaching Assistant, Duke University

## **Honors and Awards**

Member of Academy of Distinguished Teaching Scholars, elected 2024

UF Research Foundation Professor, 2023-2026

Birdsall-Dreiss lecturer, Geological Society of America, 2020/2021

University of Florida Term Professor 2017-2020

Benjamin Meaker Visiting Professorship, Bristol University, UK, 2018

Colonel Allan R. and Margaret G. Crow Term Professor 2014-2018

Fellow, UF Water Institute, 2014

UF Research Foundation Professorship, 2012-2015

Colonel Allan R. and Margaret G. Crow Term Professor 2011-2012

UF Research Foundation Professorship, 2006-2009

Fellow, Geological Society of America, elected 2006

Letter of Acknowledgement for Reviewing Service, Ground Water, 2004

Teaching Incentive Program (TIP) Award, 1998

Oak Ridge Associated Universities Junior Faculty Award, 1995

Who's Who Among Students, 1993

SEPM Student Excellence and Development Award, 1993

Amoco Fellowship, Duke University, 1986-1987

## Departmental Honors, Wesleyan University, 1980

#### **Professional Affiliations**

American Geophysical Union Geological Society of America Geochemical Society Association for Women Geoscientists

# **Service Activities for UF (since 2000)**

Chair Search Committee - Low temperature geochemistry, 2000

Co-chair the Water Institute Task force, 2001

Chair, Search Committee for Organic Geochemist/Biogeochemist, 2002

Organized Departmental Seminar series, 2002

Co-chair task force to develop the UF Water Institute, 2002

Member University-wide Committee to develop an Interdisciplinary Graduate Degree in Environmental Science, 2002-2003

Member College-wide Committee for Environment and Ecology in CLAS, 2002-2003

Member Search Committee for Faculty in Solid Earth Processes, 2004

Member UF Water Institute Launch Team, including Search and Screen Committee Water Institute Director 2004

Member Search Committee for three open faculty positions in Civil and Coastal Engineering, 2005

Member UF Water Institute Launch Team, 2005-2007

Member Search Committee for the director of the UF Water Institute, 2007

Member Search Committee Faculty positions in Civil and Coastal Engineering, 2007

Chair Search Committee for Senior Engineer, 2008

Chair of the School of Natural Resources and Environment Faculty Advisory Committee, 2008-2009

Ad hoc review committee for Program Initiation Funds for the UF Water Institute, 2009

UF representative on the State Mapping Advisory Committee, Department of Environmental Protection, 2009-present

Served on the Departmental Graduate committee, 2010

Member Departmental graduate studies committee, 2011

Water Institute Faculty Advisory committee, 2008-2014 – Chair 2012-2013.

Member of the College ad hoc Ecology and Environment Task Force (E&E Committee), 2006-2011

Chair Search committee for the Thompson Chair of Geological Sciences, 2011-2012

Member Departmental graduate studies committee, 2012

Member of the Search Committee - Engineering School of Sustainable Infrastructure and Environment, 2011-2012

Associate Chair of the Department of Geological Sciences, 2013- present

2010-2016 Member (Chair 2013) CLAS Faculty Assembly

Member Tenure and Promotion Committee for the College, 2014-2016

Reviewer Opportunity Fund grants for both the college and the university, 2016

Chair and Past Chair of the CLAS Faculty Assembly chair; member CLAS constitution committee, 2016-2017

Lead of Surface Processes group for strategic planning purposes, 2018

Chair Faculty Search for Instructor in Geosciences, 2018

Member Water Institute Faculty Advisory Committee, 2016-2018

Member CLAS Finance Committee, 2019-2021

Chair Faculty Search Committee for Physical Hydrologist, 2022

Member, Curriculum committee

Faculty Search Committee for Research Scientist, 2023

Member, Search Committee for Director of UF Water Institute, 2024

CLAS Faculty Assembly 2024-2027, co-chair 2024-2025

#### **Service Activities Outside of UF**

Member, Environment Science Steering and Evaluation Panel, ODP, 1996-1999

Member Florida Springs Task Force, 1999 – present.

Co-convener, "Workshop on the Hydrogeology of the Oceanic Lithosphere", 1999

Member, US Science Advisory Committee, ODP, 1999 – 2003

Organizer two Special Sessions at Geological Society of America national meeting, 2001:

(1) "Groundwater discharge to estuaries" and (2) "Geochemistry of karst waters: A window on hydrogeology and biota".

Member, International Association for the Physical Sciences of the Oceans – International Association of Hydrologic Sciences (IAPSO-IAHS) Joint Commission on Ground Water – Sea water Exchange 2002 – present.

Member, Review panel for NSF Graduate Student Fellowships, 2003

Member, Review panel for NSF Graduate Student Fellowships, 2004

Member, Review panel for NSF Ocean Sciences section for Instrument and Facilities, 2003

Member, Board of Governors, Karst Waters Institute, 2002 – present

Organizer of International Meeting "Karst Frontiers: Florida and Related Environments", held in Gainesville, Florida, November 2001.

Guest Editor, Ground Water Special Issue "Ground Water Discharge to Estuarine and Coastal Ocean Environments", published 2004

Associate Editor, Ground Water, 2005-2020

Organizer of Special Session at Geological Society of America national meeting, 2005, "Water, Solute, and Sediment Fluxes through Carbonate and Karst Aquifers,"

Organizer of NSF, ARO, and KWI-supported workshop: "Future Directions of Karst Research", held in San Antonio, TX May 2007

Organizer and leader of 14<sup>th</sup> Symposium on Geology of the Bahamas and other Carbonate Platforms, San Salvador Island, Bahamas, June 2008

Member State Mapping Advisory Committee, Department of Environmental Protection, Florida, 2005-present.

Review Panel for NSF Research on Learning in Formal and Informal Settings (DRL), 2009

Reviewer for Wilson Scholarships from Karst Water Institute, 2008, 2013-2019, 2023

Peer Review Gum Spring Minimum Flows and Levels, Southwest Florida Water Management District 2011

Peer Review Lower Santa Fe and Ichetucknee rivers Minimum Flows and Levels, Suwannee River Water Management District, 2013

Organizer of Special Session at Geological Society of America national meeting, 2015, "Geological interactions within the global carbon cycle"

Organizer of Special Session at Geological Society of America National Meeting, 2016, "Karst critical zone evolution: the rapid responses of carbonate systems to changes in climate, sea level, groundwater pumping, and land cover/land-use"

Guest Editor, 2017-2018, Chemical Geology special issue on carbonate critical zones Guest Editor, 2019-2020, Journal of Hydrology special issue on carbonate critical zones

Lead organizer, Carbonate Critical Zone workshop, (virtual, 2020)

Lead organizer, Carbonate Critical Zone workshop, (Gainesville. Florida, 2022)

Lead organizer, Carbonate Critical Zone workshop, (Fayetteville, Arkansas, 2023)

# **Courses Taught**

Oceanography (OCE 2005)

Physical Geology (GLY 2010)

Introduction to Marine Sciences (GLY 2080)

Principles of Mineralogy (GLY 3200)

Sedimentology (GLY 4552)

Field Camp (GLY 4790)

Hydrogeochemistry (GLY 5241)

Field Topics (GLY 5786)

Petroleum Geology (GLY 6932)

Karst Hydrogeology (GLY 6932)

Hydrogeological Processes (GLY 6932)

Surface and Ground Water Interactions (GLY 5247)

High Latitude Hydrology (GLY 6932)

Periglacial Hydrogeochemistry (GLY 6932)

## **Graduate Students and Post-doctoral Researchers Advised**

### **Committee chair:**

### **Completed Masters:**

John Catches, MS, 1997, Mixing of ground water and surface water in an unconfined karst aquifer, Little River Basin, Suwannee Co., Florida

Sheryl Gordon, MS, 1998, Seasonal variability of surface and ground water mixing in an unconfined karst aquifer, Examples from the Ichetucknee River ground water basin, Florida

Rick Rymerson, MS, 1998, Fluid flow through fractures in fine grained rocks: Evidence from an integrated petrographic, geochemical, and fluid inclusion study of the Monterey Formation, California

- Randy Dean, 1999, MS, Surface and ground water mixing in a karst aquifer: An example from the Floridan Aquifer
- Mary Lindenberg, 2001, MS, Ground water discharge and nutrient distributions in the Indian River Lagoon.
- Jango Bhadha, 2003, MS, Chemical tracing and analytical and mass-balance modes of pore water circulation in the Banana River Lagoon.
- Shelley Day, 2003, MS, Documenting modern and ancient methane release from cold seeps using deep-sea benthic foraminifera.
- Jennifer Martin (co-chair), MS, 2003, Quantification of the matrix hydraulic conductivity in the Santa Fe River Sink/Rise system with implications for the exchange of water between the matrix and conduits
- Lauren Smith, 2004, MS, Using <sup>222</sup>Rn as a tracer of mixing between surface and ground water in the Santa Fe River sink/Rise system.
- Brooke Sprouse, 2004, MS, Hydrogeology and nutrient dynamics in an unconfined karst aquifer.
- \*Edouard Pesquet-ardisson, 2006, MS candidate, University of Montpellier, France, Uses of Rn-222 as tracer in eogenetic karst aquifer
- Kris Crocket, 2007, MS, Assessment of tree-rings as a record of pre-historic stream flow in a subtropical environment
- Dylan Minor, 2011 MS, Controls of carbon isotopic composition of benthic foraminifera Carolyn Ball, 2012, MS, Longitudinal and seasonal variations in amplitude and phase of diel carbonate cycling of clear, spring-fed rivers
- Cecilia Scribner, 2014, MS, Exposure age and climate controls of weathering in deglaciated watersheds of western Greenland.
- Harshit Saini, 2020, MS 2020, Controls on wetland phosphorus distributions in Big Cypress Wetlands, South Florida

## **Complete PhD:**

- PJ Moore, 2009, PhD, Development of porosity in eogenetic karst aquifers
- Moutusi Roy, 2009, PhD, Metal fluxes to estuaries from submarine groundwater discharge
- Jason Gulley, 2010, PhD, Glacial hydrology using a karst model
- \*\*Jie Wang, 2010, PhD, Thermodynamics of dehydration and hydration in natrolite and analcime
- Maria Kurz, 2013, PhD, Biogeochemical and hydrologic controls on solute sources and cycling in a biologically productive karst river.
- Amy Brown, 2015, PhD Dissolved metal dynamics in eogenetic karst aquifers.
- Mitra Khadka, 2015, PhD Radioisotope tracing of interactions of surface and ground water.
- John Ezell, 2016, PhD, Dissolution potential in eogenetic karst aquifers: Florida and the Bahamas.
- Kelly Deuerling, 2016, PhD, Continental ice sheet retreat, chemical weathering, and solute and isotope fluxes: Examples from western Greenland.
- Andrea Pain, 2017, PhD Carbon cycling in subterranean estuaries and implications for oceanic fluxes

Madison Flint, 2021, PhD, Evaluating environmental controls on Nitrous Oxide processing in carbonate aquatic systems

Andrew Oberhelman, 2024, PhD, Carbon Cycling in the Carbonate Critical Zone

#### **Current:**

Megan Black, PhD candidate, started 2019, advanced to candidacy, 2020 Remote sensing of Greenland watersheds

Tatiana Salinas, PhD candidate, started 2021, advanced to candidacy 2022; Radiogenic isotopes of Greenland watersheds

Lindsey Aman Cromwell, PhD, started 2021, advanced to candidacy 2024, co-chair with principal chair in School of Forestry, Fisheries, and Geomatics Sciences, Controls on karst spring water chemical compositions.

## Post doctoral researchers advised

Vincent Bailly-Comte, 2009-2010 Veronique de Montety, 2009-2010 Caitlin Young, 2013 – 2015 Shaily Rahman, 2015-2017 Mitra Khadka, 2015-2016 Amy Brown, 2015 Andrea Pain, 2017-2019 Madison Flint, 2021- current

#### **Student Honors and Awards**

Sheryl Gordon – Sigma Xi, Grants in Aid award, 1996 PJ Moore: GSA Graduate Research Grant 2006,

Moutusi Roy: GSA Graduate Research Grant 2007, Best Hydrology Grant

Jason Gulley: American Association of Petroleum Geologists

Norsk Polar Institute Arktisstipend

National Speleological Society International Exploration Grant

National Speleological Society Research Grant

Lewis and Clark Fund for Exploration and Field Research (2010) Lewis and Clark Fund for Exploration and Field Research (2008)

GSA Graduate Research Grant (includes the John Montagne Award for the best proposal in Quaternary Science)

National Speleological Society Graduate Research Fellowship

**Evolving Earth Foundation Graduate Research Grant** 

Sigma Xi Grant in Aid

University Centre in Svalbard Student Research Grant

Cleveland Ohio Caving Grotto Student Research Grant

National Speleological Society International Exploration Grant

<sup>\*</sup> Pesquet-ardisson was an exchange student from the Université Montpellier II who completed his MS thesis entirely in my laboratory.

<sup>\*\*</sup> I served as advisor after his formal advisor left the university.

National Speleological Society Sara Corie Memorial Grant

National Science Award, National Speleological Society, Cave Diving Section,

2012

Marie Kurz: GSA Graduate Research Grant, 2010 John Ezell: GSA Graduate Research Grant, 2012

National Science Award, National Speleological Society, Cave Diving Section,

2012

Amy Brown: GSA Graduate Research Grant, 2012, Best Hydrology Grant, Honorable Mention

Best student presentation at Carbonate Geochemistry: Reactions and Processes in

Aquifers and Reservoirs

National Science Award, National Speleological Society, Cave Diving Section,

2012

Kelly Deuerling GSA Student in Aid Grant, 2011, Best Hydrology Grant

National Geographic Young Explorers Award, 2011

Mitra Khadka GSA Student in Aid Grant 2012, Best Hydrology Grant, Honorable Mention

Madison Flint – Best Student Presentation AGU 2021

Andrew Oberhelman Cave Research Foundation 2022

#### **Committee member:**

## Completed:

David Fann, 1996, MS Geography

Jason Curtis, 1997, PhD, Geology

Kim Sapp, 1997, MST, Geology

Brian Underwood, 1997, MS Astronomy

Rob Baker, MS, 1997, Geology

Jamie Hirsch, MS, 1998, Geology

Dennis Ruez, MS, 1998, Geology

William Kassel, 1998, PhD Chemistry

Benjamin Gordon, 1999, PhD Chemistry

Aleta Mitchell-Tapping, 2001, MS, Geology

Amy Kemerer, 2001, MS, Geology

Michael Rosenmeier, 2003, PhD, Geology

Mary Bateman, 2003, MS, Geology

Brian Dodek, 2003, MS, Geology

Chris Brown, 2005, PhD Civil Engineering

Kusali Gamage, 2005, PhD, Geology

Kevin Hartl, 2006, MS, Geology

Jeffrey King, 2007, PhD, Civil and Coastal Engineering

Jie Wang, 2007, MS, Geology

Michael Ritorto, 2007, MS, Geology

Christopher Smith, PhD (LSU), 2009, Estuarine and Coastal Oceanography

Travis Rayfield, 2008, MS, Environmental Engineering

Abigail Langston, 2009 MS, Geology

Lauren Long, MS, 2009, Interdisciplinary Ecology

Jin Jin, MS, 2009, Geology

Lili Yu, PhD, 2010, Civil Engineering

Nuvit Basdurak, 2010, Civil Engineering

Dustin Grzesik, 2010, MS, Geology

Robert Hensley, 2010, MS, Forest Resources and Conservation

Abigail Myer, 2011, MS, Geology

Katherine Rowe, 2011, MS, Geology

Pati Spellman, 2011, MS, Geology

Chloe Winant, 2012, PhD, current, Coastal and Civil Engineering

Nuvit Basdurak,, 2012, PhD, Civil Engineering

Ozlem Acar, 2012, PhD, Civil Engineering

Jake Diamond, 2013, MS, School of Forest Conservation

Gokce Atalan, 2013, MS, Geology

James Sutton, MS, 2013, Geology

Vibhava Srivastava, PhD, Agricultural and Biological Engineering

Susanna Blair, PhD, 2014, Geology

Robert Hensley, PhD, 2014, School of Forest Conservation

Rachel Douglass, PhD, 2015, current, Interdisciplinary Ecology

Virat Upadhyay, PhD, 2015, Chemical Engineering

Wes Henson, PhD, 2015, Agricultural and Biological Engineering

Sabrina Parra, PhD, 2015, Coastal and Oceanographic Engineering

Wesley Henson, 2016, Agricultural and Bilogical Sciences

Laibin Huang, PhD, 2017, Soil and Water Sciences

Dorah Foster, MS, 2017Soil and Water Science

Karen Vyverberg, PhD, 2017, Geology

Shauna Flynn, MS, 2018, Geology

Gisselle E. Guerra-Saval, PhD, 2019, Coastal and Oceanographic Engineering

Kyle Bostick, PhD, 2019, Geology

Alexandra Skrivanek, PhD, 2019, Geology

Carlos Quintero, PhD, 2020, Soil and Water Sciences

Christina Davis, PhD, 2021 Microbiology and Cell Science

Lauren Judge, MS, 2021 Geology

Han Byul Woo, PhD, 2022, Geology

Adrian Barry Sosa, PhD, 2023, Microbiology and Cell Science

Yuseung Shin, PhD, 2024, Interdisciplinary Ecology

Fernanda Gastelu Barcena, PhD, 2024, Civil and Coastal Engineering

### Current:

Paloma Marina Olarte Caceres, PhD, Geology

Justin Ellena, PhD, Microbiology and Cell Science

Kelenna O Irving, PhD, Microbiology and Cell Science

Michael Monroe, MS, School of Journalism

### **International Activities (while at UF)**

- 2023: May August, Led field excursion (20 faculty and students) to Kangerlussuaq, Sisimiut, Nuuk, Greenland
- 2022: May August, Led field excursion (20 faculty and students) to Kangerlussuaq and Sisimiut, Greenland
- 2020: March, Presentation at UNAM, Merida Mexico
- 2020: January, one week field excursion, San Salvador Island, Bahamas
- 2019: July, 5 weeks research in Greenland: Kobbefjord and Nuuk
- 2018: August, USA-Greenland Research and Educational Workshop, Nuuk, Greenland
- 2018: July August, 7 week field excursion in western and southern Greenland
- 2018: April-May, Benjamin Meeker Visiting Scientist, Bristol University, UK
- 2017: September October, visiting scientist at Greenland Geological Survey and Copenhagen University
- 2017: May June; August September, 15 weeks field excursion in western and southern Greenland
- 2017: Organize and led Field Topics course (GLY 5786) on San Salvador Island, Bahamas.
- 2014: April, Two week field excursion to Puerto Morelos, Quintana Roo, Mexico
- 2014: September, Two week field excursion to Puerto Morelos, Quintana Roo, Mexico
- 2013: Six weeks field season, Western Greenland
- 2013: April, One week field class taught on San Salvador Island, Bahamas
- 2012: October, One week field excursion to San Salvador Island, Bahamas
- 2012: Three week field excursion to Kangerlussuaq Greenland
- 2012: May, Two week field excursion to San Salvador Island, Bahamas
- 2011: Hosted Laura Korte, exchange student from University of Bremen, for internship on interferences of dissolved organic carbon on measurements of the stable isotopes of water.
- 2011: Three week field sampling trip for surface runoff of the Greenland Ice Sheet, Ilulissat, Greenland.
- 2011: Organize and led Field Topics course (GLY 5786) on San Salvador Island, Bahamas.
- 2010: Two 2-week-long field trips sampling surface and ground water from San Salvador and Rum Cay, Bahamas
- 2010: Week-long field trip sampling submarine groundwater discharge, Barbados
- 2010: Week-long field trip sampling blue holes, Yucatan Peninsula, Mexico
- 2009: UNESCO-funded field trip to develop hydrologic model of wetland in Barbados
- 2009: Juror on Habilitation Examination for Jean-Luc Seidel, University of Montpellier II, Montpellier, France.
- 2009: Organize and led Field Topics course (GLY 5786) on San Salvador Island, Bahamas.
- 2008: Invited presentation at University of Montpellier, Montpellier, France "Nitrogen in the Florida environment: Fluxes through karst and coastal systems".
- 2008: Co-chair 14<sup>th</sup> Symposium on Geology of Bahamas and other Carbonate Platforms, June 2008
- 2008: Winter field season (June) Antarctica
- 2008: Fall field season (April) Antarctica

- 2008: Rum Cay, Bahamas, Preparation and planning for 14<sup>th</sup> Symposium on Geology of Bahamas and other Carbonate Platforms.
- 2007: Visiting faculty of the USAID program Current Technology in Karst Hydrology and Water Resources
- 2007: Visiting scientist, Université Montpellier II, France, two months
- 2007: Organize and led Field Topics course (GLY 5786) on San Salvador Island, Bahamas.
- 2006: Presentation: "Tracing water sources in carbonate platforms with Sr concentrations and isotope ratios" 13<sup>th</sup> Symposium on the Geology of the Bahamas and other Carbonate Regions, San Salvador Island, Bahamas.
- 2005: Participant and invited speaker in "Summer School on Submarine Ground Water Discharge" Seoul National University, Seoul, Korea.
- 2005: Arranged for National Science Support for summer exchange visit by my student, Kelly McGowan, with a colleague in Kyoto Japan.
- 2005: Organize and led Field Topics course (GLY 5786) on San Salvador Island, Bahamas.
- 2004: Presentation: "Some Florida Hydrologic Questions: Are they better in the Bahamas?" 12<sup>th</sup> Symposium on the Geology of the Bahamas and other Carbonate Regions, San Salvador Island, Bahamas.
- 2004: Reviewer for Micronesica, a journal in Guam
- 2004: Reviewer for the Research Council of Hong Kong
- 2004: Field season on San Salvador Island, Bahamas.
- 2003: Invited talk at meeting of International Union of Geodesists (IUGG) in Sapporo Japan.
- 2003 2005: Member of joint commission of the International Association for the Physical Sciences of the Oceans and International Association of Hydrological Sciences (IAPSO/IAHS).
- 2003: Invited participant in intercalibration of techniques to measure submarine ground water discharge to coastal zones in Ubatuba, Brazil.
- 1999: Participate in COMPLEX conference on Multiple Platform Exploration, Vancouver, Canada. The meeting was to provide scientific support for development and construction of drilling platforms in addition to the new riser drill ship.
- 1999: Participant Gas Hydrate Program Planning Group (Ocean Drilling Program) in Berlin, Germany
- 1999: Participant in meeting of the Science Steering and Evaluation Panel (Ocean Drilling Program), Udine, Italy.
- 1998: Participant in meeting of the Long-term Observatories Program Planning Group (Ocean Drilling Program), Tokyo, Japan.
- 1998: Participant in meeting of the Ocean Drilling Program Science Steering and Evaluation Panel, Edinburgh, Scotland.
- 1998: Organized joint meeting of the Joint Oceanographic Institutions for Deep Earth Sampling (JOIDES), Science Steering and Evalution Panels (Ocean Drilling Program) attended by 45 scientists from ~10 different countries. Held in Gainesville, FL.

- 1998: Co-organizer "Workshop on the Hydrogeology of the Oceanic Lithosphere" attended by ~50 participants from around the world.
- 1997: Field trip to Peten, Guatemala for research into controls on the isotopic composition of lake water.
- 1997: Participant in CONCORD Conference on Cooperative Ocean Riser Drilling, Tokyo, Japan.
- 1997: Participant in meeting of the Ocean Drilling Program Science Steering and Evaluation Panel, Hobart, Tasmania, Australia. The meeting was to review proposals and plan science operations for the Ocean Drilling Program
- 1997-1999: Member of the Long-Term Observatories "Program Planning Group" (Ocean Drilling Program).
- 1996-1999: Member of Joint Oceanographic Institutions for Deep Earth Sampling (JOIDES) Science Steering and Evaluation Panel (Ocean Drilling Program).
- 1995: Field trip to Tiwanaku, Bolivia for research into hydrogeology of regions surrounding Lake Titicaca.

### **Invited Talks**

- 2023: Keynote speaker, 17<sup>th</sup> Multidisciplinary Conference on Sinkholes and the Engineering and Environmental Impacts of Karst
- 2020-2021: Birdsall Dreiss Lectures:

High Latitude Hydrology: Water in a Changing World

Auburn University, Ohio State University, University of Florida, Duke University, California State University, Bakersfield, Lawrence Berkeley National Laboratory, Western Kentucky State University, Wheaton College, Michigan State University, Florida State University, GSA Annual Meeting (twice), Wesleyan University, University of Connecticut, University of Colorado, Boulder, University of Nevada, Reno, Virginia Polytechnical University

Reversing Springs: Impacts on Carbonate Aquifers

- James Madison University, Florida International University, Universidad Nacional Autónoma de México, University of Arkansas, Wheaton College, Ground Water Resource Association Annual Meeting, Appalachian State University, Grand Valley State University, University of Virginia
- 2020: Pardee Lecture, GSA: Changes in dissolved nutrient export with continental ice sheet retreat
- 2019: Coastal Carbonate Critical Zones An example from the Yucatan Peninsula; Geological Society of America meeting
- 2018: How old is spring water? Rotary Club, Gainesville, Florida
- 2018: Neglected fluxes: Understanding the evolution of weathering as the Greenland Ice Sheet retreats, Institute of Advanced Students, University of Bristol, UK
- 2018: Springs: Windows into decadal scale processes in karst aquifers, MATES group, University of Bristol, UK
- 2018: Sr isotopes in glacial forelands: Tracing weathering and subglacial water sources, IsoGlace Workshop, University of Bristol, UK
- 2018 Between Ice and Ocean: Evaluating weathering and carbon cycling in glacial forelands of Greenland, School of Earth Science, University of Bristol, UK

- 2017 Springs: Windows into decadal-scale aquifer processes, Geological Survey of America Annual Meeting.
- 2017 Neglected fluxes: Understanding the evolution of weathering as the Greenland Ice Sheet retreats, Center for Permafrost, Lund University.
- 2017 Neglected fluxes: Understanding the evolution of weathering as the Greenland Ice Sheet retreats, Center for Permafrost, Copenhagen University.
- 2017 Neglected fluxes: Understanding the evolution of weathering as the Greenland Ice Sheet retreats, Geosciences group; Geology Department and Museum of Natural History, Copenhagen University; Greenlandic and Danish Geological Survey (GEUS).
- 2017 Karst Aquifers and Two Stories about Florida's Water. Oak Hammock Retirement Home, February 6, 2017
- 2016, Weathering in Greenland watersheds: Proxies for ocean and atmospheric fluxes during ice sheet retreat, SUNY Stoney Brook
- 2015, Sea level rise impacts on coastal karst aquifers, Geological Society of America, Baltimore, MD
- 2014: Planning for hydrologic and ecological impacts of sea level rise on sustainability of coastal water resources, National Science Foundation, Arlington, VA.
- 2014: Hydrogeology and hydrogeochemistry of coastal karstic aquifers of the Yucatan Peninsula Universidad Nacional Autonoma de Mexico, Instituo de Ciencias del Mar y Limnologia, Puerto Morelos, Mexico.
- 2014: Keynote: Transient Processes in the biogeochemical reaction zone of subterranean estuaries, Goldschmidt Geochemical Meeting.
- 2013: Carbonate Karst of North-central Florida, Geology, hydrology and hydrogeology, Science Writers Workshop, 2013.
- 2013: Sources of water and solutes and in-stream processing of solutes in the Ichetucknee River, Florida, St Johns River Water Management District
- 2013: Hydrogeology of carbonate terrains and the global carbon cycle, Wesleyan University, CT
- 2013: Hydrogeology of carbonate terrains and the global carbon cycle, George Mason University
- 2013: Hydrogeology of carbonate terrains and the global carbon cycle, Florida State University
- 2013: Karst in the global carbon cycle, Carbon and Boundary in Karst, Carlsbad, NM
- 2012: Florida's geology (and hydrology and hydrogeology), Agricultural and Biological Engineering, UF
- 2012: Springs and blue holes: windows into chemical and physical hydrogeology of eogenetic karst aquifers, Indiana State University
- 2011: Blue Holes: Windows into chemical and physical hydrogeologic processes in karst of modern carbonate platforms, American Geophysical Union, Fall Meeting
- 2011: Karst Aquifers: A neglected hydrogeologic problem, Duke University, Durham, NC.
- 2011: Water chemistry of blue holes and dissolution of carbonate platforms, Carbonate Geochemistry: Reactions and Processes in Aquifers and Reservoirs, Billings MT.
- 2011: Geology and Hydrogeology of Florida, Agricultural and Biological Engineering, UF
- 2009: Submarine groundwater discharge: Perspectives from a field geochemist, Civil and Coastal Engineering, UF.

- 2009: SGD: Lessons from a Florida estuary, Geological Society of America Annual Meeting, Portland, OR.
- 2009: Surface water and groundwater in the Ichetucknee springshed. Ichetucknee Springs Working Group, Lake City, FL
- 2008: Supply and demand in the oil business: Do they control the price of oil?, Rotary Club, Gainesville, FL.
- 2008: What controls submarine groundwater discharge?, Ft. Lauderdale, Florida, AGU Spring National Meeting.
- 2008: Nitrogen in the Florida environment: Fluxes through karst and coastal systems", University of Montpellier, Montpellier, France
- 2008: The subterranean Estuary: What are the magnitudes of submarine ground water discharge? What are sources of Water? How much elemental cycling occurs? Are nutrient fluxes important? Water, Watershed and Wetlands Seminar, University of Florida.
- 2007: Sr Isotopic Evidence for Deep Ground Water Circulations in the Bahamian Carbonate Platform, University of South Florida, Tampa, April 11, 2007
- 2007: Hydrology in high porosity limestones: Case studies from Florida and the Bahamas: Southwest University of China, Beibei, Chongqing, P.R. China
- 2007: Carbonate chemistry with a brief introduction to thermodynamics of aqueous solution and PHREEQC: Southwest University of China, Beibei, Chongqing, P.R. China
- 2007: Hydrologic observatories: data logging and automatic water sampling across a watershed: Southwest University of China, Beibei, Chongqing, P.R. China
- 2007: Deep circulation in carbonate banks: Evidence from Sr<sup>2+</sup> concentrations and <sup>87</sup>Sr/<sup>86</sup>Sr ratios from San Salvador Island and Long Island, Bahamas, Université Montpellier II, Montpellier, France
- 2007: Hydrogeology, hydrochemistry, and diagenesis in a modern carbonate platform examples from San Salvador Island, Bahamas, Université Montpellier II, Montpellier, France
- 2007: Groundwater flow to coastal zones: Significance and magnitudes of "Submarine Groundwater Discharge" (SGD), Université Montpellier II, Montpellier, France
- 2006: "Between sinks and springs: What is ground water in young carbonate platforms?", FAMU, Tallahassee, Fl.
- 2006: "Importance of interactions between surface and ground water in the Florida carbonate platform", Barnacle Busters Dive Club, Gainesville, Florida
- 2006: "Assessing the magnitudes of submarine ground water discharge, an example from Indian River Lagoon, Florida", University of South Florida.
- 2005: "Separating terrestrial and marine submarine ground water discharge", International School on Submarine Ground Water Discharge, Seoul National University, Seoul, Korea.
- 2005: "Impact of bioirrigation on submarine ground water discharge", Louisiana State University, Baton Rouge, Louisiana.
- 2005: "Separating Marine and Terrestrial Submarine Ground Water Discharge", Geological Society of America National meeting, Salt Lake City, Utah.
- 2005: "Water Resource" Oak Hammock, Gainesville, FL.
- 2004: "Can Rn be used to measure ground and surface water mixing in karst terrains?" School of Natural Resources and the Environment, University of Florida, Gainesville, FL.

- 2003: "Surface and Ground Water in Karst Terrains: What's the difference?" Gainesville, FL, Center for Wetlands.
- 2003: "Isotopic record of foraminifera living in methane-venting cold seeps", American Association of Petroleum Geologists, Long Beach, CA, 2003.
- 2003: "What constitutes submarine ground water discharge?" International Union of Geodesists and Geophysicists, Sapporo Japan, 2003.
- 2003: "Are ground and surface water different in karst terrains?" Florida State Biologists Meeting, Gold Head Branch State Park.
- 2002: "Karst Aquifers: Are ground and surface water the same?" Madison, WI, National Water Quality Monitoring Conference 2002.
- 2001: "Geological Sciences at the University of Florida" US Geological Survey, St. Petersburg, FL.
- 2001: "How does ground water differ from surface water in karst aquifers?", Florida State University.
- 1999: "Geology and chemistry of the Ichetucknee Springs" Ecological Design Practicum, College of Architecture, University of Florida, Gainesville, Florida.
- 1999: "Chemistry of the Ichetucknee Springs" Ichetucknee Springs Working Group, O'Leno State Park.
- 1999: "Where does the water come from? Chemistry of karst springs" Barnacle Busters Dive Club, Gainesville, Florida.
- 1998: "Water-rock interactions in non-igneous sections" Workshop on the Hydrogeology of the Oceanic Lithosphere, Santa Cruz, California.
- 1997: "Quantifying Surface and Ground Water Interactions in Both Freshwater and Marine Environments" St. Johns River Water Management District, Palatka, FL.
- 1997: "Mud Volcanoes and Cold Seeps: Examples from the Barbados Accretionary Prism and Monterey Bay", Monterey Bay Aquarium Research Institute, Moss Landing, CA.
- 1997: "Why are the seas salty?" University of Florida, Sigma Xi presentation.
- 1995: "Origins of fluids venting from convergent and continental margin sediments" University of South Florida.
- 1995, "Fluid venting in the Monterey Bay, California, or, Why go a-ROVing" University of Florida.
- 1994, "Origins and compositions of fluids at convergent margins" University of Nevada, Reno.
- 1994, "Origins and compositions of fluids at convergent margins" University of Florida.
- 1994, "Origins and compositions of fluids at convergent margins" University of California, Santa Cruz.
- 1994, "Origins and compositions of fluids at convergent margins" Florida State University.

## **Funding History** (total about \$16M)

# **Currently funded:**

- (59) National Science Foundation, "Significance of Ice-loss to Landscapes in the Arctic: SILA (Inuit concept of the physical world and weather)"; \$2,244,966; J. Martin PI 8/1/2020-7/31/2025.
- (58) National Science Foundation, "Collaborative Research: GeoGaze: Gaze-driven adaptive multimedia to augment geoscience learning for neurodiverse learners",

\$774,654 Jan. 1, 2022 – December 31, 2024. Pasha Antonenko (PI), co-I: Albert Ritzhaupt, Kara Dawson, Jonathan Martin. Total budget \$774,654, GLY portion \$52,198

## **Projects Completed:**

- (57) National Science Foundation, "CZ RCN: Research Coordination in Carbonate Critical Zones" \$499,121, J. Martin (PI) 5/1/19 5/30/24
- (56) University of Florida, Water Institute, "High Latitude Hydrology: Water in a Changing World", Funds 6 graduate fellows for 6 years, approximately \$1M, J. Martin P.I., co-PIs, Stuart McDaniel, James Jawitz, Matthew Cohen, Arnoldo Valle-Levinson, Ellen Martin, 08/01/2019-12/31/2023.
- (55) National Science Foundation, "Collaborative Research: How does groundwater inundation of carbonate island interiors from sea level rise impact surface water-aquifer interactions and evaporative losses?" J Martin UF PI, \$192,051, 05/01/18 04/30/23
- (54) National Science Foundation, Collaborative Research: Geophysical characterization of a karst aquifer using dynamic recharge events, 04/01/2018 03/31/2022, \$33,396.
- (53) National Science Foundation, Neglected fluxes: Understanding the evolution of weathering as continental ice sheets retreat, 9/1/16-8/31/21, \$820,295, J. Martin co-PI.
- (52) National Science Foundation, Collaborative Research: Does calcification by paleoceanographically relevant benthic foraminifera provide a record of localized methane seepage? 8/1/16 7/31/21, \$85,908, J. Martin, PI.
- (51) National Science Foundation, Collaborative Research: Patterned Landscapes and the Ecological Drill: Biotic Control on Hydrology and Surface Morphology in a Low-Relief Carbonate System, J. Martin co-PI, total budget \$1.08M, Martin portion \$179,442, 3 yrs. 5/1/14 4/30/18.
- (50) National Science Foundation, Weathering of western Greenland: Influences on oceanic fluxes of radiogenic isotopes, \$484,439, J. Martin, PI, 1/1/13-12/31/17.
- (49) St Johns River Water Management District, Sediment survey and fluxes of nutrients from sediments and groundwater in the northern Indian River Lagoon, Florida, \$39,375 8/1/17-9/30/17.
- (48) St Johns River Water Management District, Springs Ecosystem Supergroup Benthic sources and sinks of nutrients and trace element dynamics, \$3.0M, \$222,720 (Martin portion) 7/1/14 6/30/17.
- (47) St Johns River Water Management District, Sediment survey and fluxes of nutrients from sediments and groundwater in the northern Indian River Lagoon, Florida, \$249,000, 1/6/2014 1/15/2017.
- (46) Water Institute, Graduate Fellows Program, Impacts of sea level rise on seawater intrusion into and freshwater discharge from surface end subterranean estuaries. J. Martin PI, co-PIs T. Boyer, A. Dutton, A. Ogram, B. Pine, A. Valle-Levinson; Funds 6 graduate fellows for 4 years Aug. 2013 – Aug. 2017 approximately \$900,000.
- (45) St. Johns River Water Management District, Using Sr isotope ratios to estimate hydrologic connections across the middle confining unit of the Floridan Aquifer, \$35k, March 1, 2013 February 28, 2014

- (44) National Science Foundation, Coastal SEES (Track 1): Planning for hydrologic and ecological impacts of sea level rise on sustainability of coastal water resources, 8/1/13-7/31/15, \$441,136, 2 yrs.
- (43) Petroleum Research Fund, American Chemical Society, "Post-depositional dissolution of carbonate minerals: Origins of secondary porosity in modern carbonate platforms", \$100,000, J. Martin sole PI, 1/1/10 8/31/14.
- (41) Three Rivers Trust, Inc., "Determining the Age of Ichetucknee Springs Water", \$30,000 J. Martin PI, 5/1/09 2/29/14.
- (40) National Science Foundation, "Reversal of karst springs: Implications for water budgets, water quality, and speleogenesis", Jon Martin, PI, Elizabeth Screaton, co-PI, \$385,989, 8/01/09 9/30/13.
- (39) National Geographic Society, "Weathering of Greenland: Inferences from radiogenic isotopes discharging from subglacial hydrologic systems", \$17,350, J. Martin PI, 3/1/12-3/1/14.
- (38) National Science Foundation, "Collaborative Research: Controls on delivery and fate of water, nitrogen and calcium in a spring-fed karst river", co-PI, total \$406,100, 3/1/09 2/28/13.
- (37) National Science Foundation, "High resolution sensor networks for quantifying and predicting surface-groundwater mixing and nutrient delivery in the Santa Fe River, Florida", \$456,782 (total award), \$150,963 (Martin award) 8/1/09 7/31/12.
- (36) UF-FEO "An Introduction to glacial hydrology", \$49,512, J Martin PI. 1/11 12/11.
- (35) National Science Foundation, Collaborative Research: "Testing the impact of seasonality on benthic foraminifers as paleoceanographic proxies." 8/1/07-7/31/09, \$150,000 Principal Investigator, UF (Collaboration with Indiana State University and Southern Illinois University, total grant \$350,000)
- (34) National Science Foundation, Acquisition of an X-ray Diffractometer for Mineralogical and Sedimentological Studies, NSF, Phil Neuhoff, PI, Jon Martin, John Jaeger, co-PI, \$167,485
- (33) St Johns River Water Management District, Desktop study of N fluxes in Indian River Lagoon, Florida, \$20,000, May 2008 December 2008, PI Jon Martin
- (32) National Science Foundation, "Future Directions In Karst Research: A Workshop Proposal", 6/1/06 5/31/07, \$23,375, Principal Investigator.
- (31) Florida Department of Environmental Protection, "Hydrogeology of O'leno State Park and Nitrate Loading from the River Rise, A First Magnitude Spring", 7/1/06-6/30/07, \$85,000, Sole Principal Investigator.
- (30) National Science Foundation, "Design and demonstration of a distributed sensor array for predicting water flow and nitrate flux in the Santa Fe Basin", 11/1/06-10/31/08 \$360,000 co-Principal Investigator with Wendy Graham (PI), Joe Delfino, Clint Slatton (co-PI's)
- (29) National Science Foundation, "Collaborative research: interdisciplinary approach to understand stable isotopic disequilibrium in benthic foraminifera", 2/1/07 1/31/09, \$129,004, Principal Investigator, UF (Collaboration with Indiana State University and Woods Hole Oceanographic Institution, total grant \$450,000).
- (28) National Science Foundation, "Integrated Graduate Education, Research, and Training (IGERT) Program in Adaptive Management: Water, Watersheds, Wetlands", 6/1/05-

- 5/31/10, \$3,200,000. co-Principal Investigator with Mark Brown (PI), Ramesh Reddy, Richard Hamann (co-PI's)
- (27) School of Natural Resources and the Environment, "Support for Preparation of the NSF Proposal: "Development of a Hydrologic Observatory in the Suwannee River Watershed" Principal Investigator, with Wendy Graham and Joe Delfino (co-PI's), 1/1/05 6/30/05, \$30,000.
- (26) National Science Foundation, "Integrated physical and chemical observations of waterrock interactions and coupled matrix-conduit flow in the karstic Floridan aquifer", 9/1/05-8/31/08, \$321,000, Principal Investigator with Liz Screaton (co-PI).
- (25) Florida Department of Environmental Protection, "Hydrogeology of O'leno State Park and Nitrate Loading from the River Rise, A First Magnitude Spring", 11/30/04-6/30/06, \$184,015, Sole Principal Investigator.
- (24) National Science Foundation, "Collaborative Research: Are carbon fluxes from marine sediments enhanced by submarine ground water discharge?", \$779,523 total; \$268,582 UF portion 8/1/04 7/31/07, \$268,582, Lead Principal Investigator.
- (23) National Oceanographic and Atmospheric Administration, "Developmental Project: Oxygen and Sr Isotopic Stratigraphy and Ages of Sediment Involved in the Submarine Slide off of Unimak Island, Alaska", 3/1/04-2/28/06, \$10,360, Sole Principal Investigator.
- (22) US Geological Survey, "Integrated studies of surface water-ground water exchange in Tampa Bay, Florida", 4/1/02-6/30/06, \$145,000, Sole Principal Investigator
- (21) St. Johns River Water Management District, "Nutrient Fluxes to the Indian River Lagoon from advective benthic processes", 4/1/03-9/30/04, \$165,000, Sole Principal Investigator.
- (20) Florida Department of Environmental Protection, "Hydrogeology of O'leno State Park and Nitrate Loading from the River Rise, A First Magnitude Spring", 12/30/03-6/30/04, \$55,000, Sole Principal Investigator.
- (19) Florida Department of Environmental Protection, "Hydrogeology of O'leno State Park: Its Relationship to Ground Water Contamination and Nutrient Discharge from Three First magnitude Springs, \$47,985, 6/1/02 5/31/03, Sole Principal Investigator.
- (18) National Science Foundation, "Assessment of the importance of matrix flow in a conduit-dominated karst aquifer: Investigation of the unconfined Floridan Aquifer", \$174,669, 5/1/01-4/30/03, Principal Investigator with Liz Screaton (co-PI).
- (17) CLAS Research Awards, "Development of a new technique for measurement of Ra isotopes and applications for convergent margin hydrogeology", \$17,000, 1/31/00 1/31/01, Sole Principal Investigator.
- (16) National Science Foundation, "Development of an inexpensive, submersible, automatic water sampler", \$48,227, 1/1/00 12/31/02, Principal Investigator with Ray Thomas (co-PI).
- (15) National Oceanographic and Atmospheric Administration, "Deep-Sea Benthic Foraminifera Associated with Methane Seeps: Clues for Modern and Ancient Methane Release", \$45,786, 3/01/00-2/28/03, sole Principal Investigator.
- (14) St. John's River Water Management District, "Quantification of ground water discharge and resulting chemical loading to the Indian River Lagoon, Florida", \$201,520, 4/19/99 2/16/02, Sole Principal Investigator.

- (13) National Science Foundation, "Surface and ground water mixing and reactions in a semi-confined karst aquifer: An example from the Floridan aquifer", \$47,782, 1/1/98 to 12/31/01, Sole Principal Investigator.
- (12) Joint Oceanographic Institutions, US Science Support Program, "Workshop on the Hydrogeology of the Oceanic Lithosphere", \$15,338, 1/11/98 1/11/99, co-co-Principal Investigator with Keir Becker (PI).
- (11) National Oceanographic and Atmospheric Administration, "Modern Fluid Venting and its History: Monterey Bay, CA", \$76,610, 4/1/98-3/31/00, Sole Principal Investigator.
- (9) National Science Foundation, "Climate Variability and Ecologic Change in Mesoamerica During the Late Holocene: Implications for Maya Cultural Evolution", \$304,000 7/1/97-6/30/00, co-co-Principal Investigator with Dave Hodell (PI) and Mark Brenner (co-PI).
- (8) National Geographic Society, "The Role of Climate Change in the Collapse of Classic Maya Civilization", \$20,430, 6/1/97-5/30/97, co-co-Principal Investigator with Dave Hodell (PI) and Mark Brenner (co-PI).
- (7) National Science Foundation, "Acquisition of a Stable Isotope Mass Spectrometer with Automated Preparation Systems", \$156,271, 3/97 to 3/99, co-Princple Investigator with Dave Hodell (co-PI).
- (6) Office of Research, Technology, and Graduate Education (UF), "Request for graduate research assistant support", \$4739, 6/96 to 12/96, Sole Principal Investigator.
- (5) Office of Research, Technology, and Graduate Education (UF), "Development of an automatic water sampler and its application to chemical hydrogeology of karst terrains" \$24,993, 4/96 to 4/97, Sole Principal Investigator.
- (4) Oak Ridge Associated Universities Junior Faculty Award, "Hydrology, mass fluxes, and their records at plate boundaries", \$10,000, 6/95 to 6/96, Sole Principal Investigator.
- (3) American Chemical Society, Petroleum Research Fund, "Paleo-fluid compositions in the Monterey Formation: An integrated geochemical and fluid inclusion study", \$20,000, 5/95 to 8/97, sole Principal Investigator.
- (2) Division of Sponsored Research, University of Florida, "Request for partial support toward the purchase of an ion chromatograph", \$9750, 2/95 to 1/96, Sole Principal Investigator.
- (1) National Science Foundation, "Acquisition of a new TIMS for ocean and earth sciences at the University of Florida", \$361,720, co-co-Principal Investigator with Paul Mueller (PI), Dave Hodell, Ellen Martin, (co-PI).

### Edited Books, Symposium Volumes, and Journal Special Issues

- Siewers, F.D. and Martin, J.B., 2010, Proceedings of the 14<sup>th</sup> symposium on the Geology of the Bahamas and Other Carbonate Regions, Gerace Research Centre, San Salvador, Bahamas, 249 p.
- Martin, J.B. and White, W.B., 2008, Frontiers of Karst Research, Karst Waters Institute, Leesburg, Virginia, Special Publication #13, 118 p.
- McKenna, T.E., and Martin, J.B., 2004, Ground Water Discharge to Estuarine and Coastal Ocean Environments, Groundwater, v. 72, p. 957 1120.
- Martin, J.B., Wicks, C.M, and Sasowski, I., 2002, Hydrogeology and Biology of Post-Paleozoic Carbonate Aquifers, Charles Town, WV, Karst Waters Institute, Special Publication #7, 212 p.

### **Peer-reviewed Publications**

- (146) Barry-Sosa, A. \*Flint, M.K., Ellena, J.C., Martin, J.B., Christner, B.C., 2024, Effects of surface water interactions with karst groundwater on microbial bioma, metabolism, and production., Biogeosciences, <a href="https://doi.org/10.5194/egusphere-2024-49">https://doi.org/10.5194/egusphere-2024-49</a>.
- (145) \*Oberhelman, A., Martin, J.B., \*\*Flint, M.K., 2024, Sources of limestone dissolution from surface water-groundwater interactions in the carbonate critical zone, Chem. Geol., v. 662, https://doi.org/10.1016/j.chemgeo.2024.122229
- (144) Gochenour, J.A., Bilek, S.L., Woo, H.B., Luhmann, A.J., Grapenthin, R., Martin, J.B., 2014, Ambient Seismic Noise Tomography within the Floridan Aquifer System, Santa Fe River-Sink Rise, Florida, U.S., JGR Solid Earth DOI: 10.1029/2023JB027644.
- (143) Martin, J.B., Pain, A.J., Martin, E.E., in press, Geochemistry of glacial, proglacial, and deglaciated environments, Treatise on Geochemistry, 78 pages.
- (142) \*Oberhelman, A., Martin, J.B., \*\*Flint, M.K., 2024, Groundwater-surface water interaction, dissolved organic carbon oxidation, and eogenetic karst dissolution, Earth Surface Processes and Landforms, 1-15, DOI: 10.1002/esp.5830.
- (141) \*Flint, Madison, K., Martin, Jonathan B., \*Oberhelman, Andrew, \*Janelle, Alex, \*Black, Megan, Barry-Sosa, Adrian, Christner, Brent C., 2023, Hydrologic and organic carbon quality controls on nitrous oxide dynamics across a variably confined karst aquifer, JGR Biogeosciences, 10.1029/2023JG007493.
- (140) \*Oberhelman, A., Martin, J.B., \*Flint, M.K., 2023, Methane cycling in the carbonate critical zone, STOTEN, v. 899, https://doi.org/10.1016/j.scitotenv.2023.165645
- (139) Woo, Han Byul, Bilek, Susan, Gochenour, Jacob, Grapenthin, Ronni, Luhmann, Andrew, Martin, Jonathan, 2023, Processing ambient noise data using phase cross-correlation and application towards understanding spatiotemporal environmental effects, JGR Earth Surface. https://doi.org/10.1029/2023JF007091
- (138) Dong, X, Martin, J.B., Cohen, M., 2023, Nature bedrock mediates responses of ecosystem productivity to climate variability, Nature Communications Earth and Environment, 4:114 | https://doi.org/10.1038/s43247-023-00773-x
- (137) Covington, M. D., Martin, J. B., Toran, L. E., Macalady, J. L., Sekhon, N., Sullivan, P. L., Á. A. García Jr., J. B. Heffernan, and W. D. Graham, 2023, Carbonates in the critical zone. *Earth's Future*, *11*, e2022EF002765. https://doi.org/10.1029/2022EF002765

- (136) Chevis, D.A., Mohajerin, T.J., Yang, N., Cable, J.E., Rasbury, E.T., Hemming, S.R., Burdige, D.J., Martin, J.B., White, C.D., Johannesson, K.H., 2021, Neodymium isotope geochemistry of a subterranean estuary, Front. Water 3:778344, doi: 10.3389/frwa.2021.778344.
- (135) Pain, A.J\*., Martin, J.B., Young, C.R.\*\*, 2021, Biogeochemical and hydrological drivers of heterogeneous nutrient exports from subterranean estuaries, Frontiers in Marine Sciences, 8:699916. Doi:10.3389/fmars.2021.699916.
- (134) Huang, L, Bae, H-S., Young, C., Pain, A\*., Martin, J.B., Ogram, A., 2021, Campylobacterota dominate the microbial communities in a tropical karst subterranean estuary, with implications for cycling and export of nitrogen to coastal water, Environmental Microbiology, v. 23, 6749-6763, DOI:10.1111/1462-2920.15746.
- (133) Pain, A.J\*\*. Martin, J.B., Martin, E.E., Rennermalm, A., Rahman, S\*\*., 2021, Heterogeneous CO<sub>2</sub> and CH<sub>4</sub> content of glacial meltwater of the Greenland Ice Sheet and implications for subglacial carbon processes, Cryosphere, https://doi.org/10.5194/tc-2020-155,
- (132) Flint M.K\*., Martin, J.B., Summerall, T.I., Barry-Sosa, A. Christner, B.C., 2021. Nitrous oxide processing in carbonate karst aquifers. Journal of Hydrology, 594: 125936. DOI: <a href="https://doi.org/10.1016/j.jhydrol.2020.125936">https://doi.org/10.1016/j.jhydrol.2020.125936</a>
- (131) Pu, J., Li, J., Zhang, T., Martin, J.B., Yuan, D., 2020, Varying thermal structure controls the dynamics of CO2 emisssions from a subtropical reservoir, south China, Water Research, v. 178, <a href="https://doi.org/10.1016/j.watres.2020.115831">https://doi.org/10.1016/j.watres.2020.115831</a>.
- (130) Martin, J.B., Pain, A.J\*., Martin, E.E., Rahman, S\*\*., Akerman, P., 2020, Comparisons of nutrients exported from Greenlandic glacial and deglaciated watersheds, Global Biogeochem. Cycles 34, e2020GB006661.https://doi.org/10.1029/2020GB006661.
- (129) Ward, Nicholas D., Bianchi, Thomas S., Martin, Jonathan B., Quintero, Carlos J., Sawakuchi, Henrique O., Cohen, Matthew, 2020, Pathways for methane emissions and oxidation that influence the net carbon balance of a subtropical cypress swamp., Front. Earth Sci. 8; 573357. Doi:10.3389/feart.2020.573357.
- (128) Valle-Levinson, A., Martin, J.B., 2020, Solar activity and lunar precessions influence extreme sea-level variability in the U.S. Atlantic and Gulf of Mexico coasts, Geophysical Research Letters, 47, e2020GL090024. https://doi.org/10.1029/2020GL090024.
- (127) Pain, A.J\*\*., Martin, J.B., Martin, E.E., Rahman, S\*\*., Ackermann, P. 2020, Differences in the quantity and quality of organic matter exported from Greenlandic glaciated an deglaciated watersheds, Global Biogeochemical Cycles, 34, e2020GB006614. https://doi.org/10.1029/2020GB006614.
- (126) Zhang, T., Li, J., Pu, J., Martin, J.B., Want, S., Yuan, D., 2020, Rainfall possibly disturbs the diurnal pattern of CO2 degassing in the Lijiang River, SW China, J. Hydro, <a href="https://doi.org/10.1016/j.jhydrol.2020.125540">https://doi.org/10.1016/j.jhydrol.2020.125540</a>
- (125) Huang, He, Chen, Zhihua, Wang, Tao, Zhou, Gaoming, Martin, Jonathan B., Zhang, Liang, Meng, Xianmeng, 2020, Origins and mixing contributions of deep warm groundwater in a carbonate-hosted ore deposit, Sichuan0Yunnan-Guizhou Pb-Zn

- triangle, southwestern China, J. Hydro., https://doi.org/10.1016/j.jhydrol.2020.125400
- (124) Gulley, J.D., Breecker, D., Covington, M., Cooperdock, S., Banner, J., Moore, P.J., Noronha, A., Briethupt, C., Martin, J.B., Jenson, J., 2020, Tidal pumping and biogeochemical processes: Dissolution within the tidal capillary fringe of eogenetic coastal carbonates, ESPL, DOI:10.1002/asp.4922.
- (123) Pain, A.J.\*, Martin, J.B., Young, C.R\*\*., Valle-Levinson, A., Mariño-Tapia, I., 2019, Carbon and phosphorus processing in a carbonate karst aquifer and delivery to the coastal ocean, Geochemica Cosmochemica Acta, GCA, 269: 484-495.
- (122) Kellerman, A.M., Arellano, A., Podgorski, D.C., Martin, E.E., Martin, J.B., Deuerling, K.M., Bianchi, T.S., spencer, R.G.M., 2019, Fundamental drivers of dissolved organic matter composition across an Arctic effective precipitation gradient, Limnology and Oceanography, DOI: 10.1002/lno.11385.
- (121) Sullivan, P., Macpherson, G.L., Martin, J.B., Price, R.M., (2019) Evolution of Carbonate and Karst Critical zones, Chem. Geo., DOI. 10.1016/j.chemgeo.2019.06.023
- (120) Zhang, X., Bianchi, T.S., Coen, M.J., Martin, J.B., Quintero, C.J., Brown, A.L., Ares, A.M., Heffernan, J.B., Ward, N., Osborne, T.Z., Shields, M.R., Kenney, W.F., 2019, Initiation and Development of wetlands in southern Florida karst landscape associated with accumulation of organic matter and vegetation evolution, JGR Biogeosciences, 124, https://doi.org/10.1029/2018JG004921.
- (119) Pu, J., Li, J., Zhang, T., Martin, J.B., Khadka, M.B\*., Yuan, D., 2019, Diel-scale variation of dissolved inorganic carbon during a rainfall event in a small karst stream in southern China, Env. Sci. and pollution Research, doi.org/10.1007/s11356-019-04456-z, 16 p.
- (118) Pain, A.J\*., Martin, J.B., Young, C.R\*\*., 2019, Sources and sinks of CO<sub>2</sub> and CH<sub>4</sub> in siliciclastic subterranean estuaries, L&O, doi: 10.1002/lno.11131.
- (117) Pain, A.J\*., Martin, J.B., Young, C.R\*\*., Huang, L., Valle-Levinson, A., (2019), Organic matter quantity and quality across salinity gradients in conduit-versus diffuse flow dominated subterranean estuaries, Limnol. Oceanogr. 64, 1386-1402, doi: 10.1002/lno.11122.
- (116) Deuerling, K. M.\*, Martin, J. B.#, Martin, E. E., Abermann, J., Myreng, S. M., Petersen, D., & Rennermalm, A. K. (2019). Chemical weathering across the western foreland of the Greenland Ice Sheet. *Geochimica et Cosmochimica Acta*, 245, 426-440. <a href="https://doi.org/10.1016/j.gca.2018.11.025">https://doi.org/10.1016/j.gca.2018.11.025</a>
- (115) Spellman, Patricia., Gulley, Jason, Martin, Jonathan B., Loucks, Jeremy, 2019, The role of antecedent groundwater heads in controlling transient aquifer storage and flood peak attenuation in karst watersheds, Earth Surf. Proc. Landforms, DOI: 10.1002/esp.4481, 44: 77-87.
- (114) Chamberlin, C., Dong, X, Quintero, C., Cohen, M., Ward, N., Murray, A., McLaughlin, D., Watts, A., Bianchi, T., Martin, J., Pain, A., Zhang, X., \*Flint, M., \*Brown, A., Heffernan, J., 2018, Holocene development of a karst Patterned Landscape in South Florida, Chem. Geol. https://doi.org/10.1016/j.chemgeo.2018.05.029

- (113) Dong, Xiaoli, Cohen, Matthew J., Martin, Jonathan B., Murray, A. Brad, McLaughlin, Daniel L., Ward, Nicholas D., Flint, M., Heffernan, James B., 2018, Ecohydrologic processes and soil thickness feedbacks control limestone-weathering rates in a karst landscape, Chem. Geology,https://doi.org/10.1016/j.chemgeo.2018.05.021.
- (112) Brown, A.L\*, Martin, J.B.#, Kamenov, G., Ezell, J.E\*., Screaton, E.J., Gulley, J.D\*., Spellman, P.D., 2018, Trace metal cycling in karst aquifers subject to periodic river water intrusion, Chem Geo.https://doi.org/10.1016/j.chemgeo.2018.05.020
- (111) Liu, Z., Macpherson, G.L., Groves, C., Martin, J.B., Yuan, D., Zeng, S., 2018, Large and active CO2 uptake by coupled carbonate weathering, Earth-Science Reviews, <a href="https://doi.org/10.1016/j.earscirev.2018.05.007">https://doi.org/10.1016/j.earscirev.2018.05.007</a>, vol. 182, p. 42-49.
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- Chen, J., Zhang, T., Martin, J.B., Ravbar, N., Gessert, A., Li, J., Yuan, D., Pu, J., in review, Earth-Science Reviews, The Critical Zone Thickness: Spatial Heterogeneity and Controlling Factors in China, 54 manuscript pages.
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