

## Ryan A. Venturelli [she/her]

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### CONTACT INFORMATION

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University of South Florida  
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*Website:* [www.rad-subglacial.github.io](http://www.rad-subglacial.github.io)

### RESEARCH INTERESTS

Isotope geochemist with expertise in geochronology, subglacial carbon cycling, and clumped isotope paleothermometry. I take a process-to-paleo approach using sub-ice (subglacial and grounding-line-proximal) sediments to reconstruct Antarctic Ice Sheet change since the Last Glacial Maximum.

### EDUCATION

**University of South Florida**, St. Petersburg, Florida USA

PhD in Marine Science, expected graduation: December 2020

Dissertation : *Unravelling Paleoclimate's Gordian Knots: Assessing The 'What?' and 'When?' of Holocene Climate Change from Antarctica to the Florida Keys*

Advisor: Dr. Brad E. Rosenheim

**Indiana State University**, Terre Haute, Indiana USA

Master of Science in Earth and Quaternary Systems, 2015

Thesis: *The Ecology of Deep Sea Benthic Foraminifera on the California Margin: Epifaunal Taxa in an Infaunal World*

Advisor: Dr. Anthony E. Rathburn

**Indiana University Northwest**, Gary, Indiana USA

Bachelor of Science in Geology, 2013

Undergraduate Research: *Late Holocene dune development and shift in dune-building winds along southern Lake Michigan*

Advisor: Dr. Zoran Kilibarda

### REFEREED JOURNAL PUBLICATIONS

- [5] **Venturelli, R.A.**, Siegfried, M.R., Roush, K.A., Li, W., Burnett, J. Zook, R., Fricker, H.A., Priscu, J.C. Leventer, A., and Rosenheim, B.E.. Mid-Holocene Grounding Line Retreat and Re-advance at Whillans Ice Stream, West Antarctica. *Geophysical Research Letters*, accepted.
- [4] **Venturelli, R.A.**, and Rosenheim, B.E. (2019). Compositional and beam-size-dependent effects on pressure baseline in clumped isotope mass spectrometry. *Rapid Communications in Mass Spectrometry*, 33(1), 140-148.
- [3] Petersen, S.V., Defliese, W.F., Saenger, C., Daëron, M., Huntington, K.W., John, C. M., Kelson, J.R., Bernasconi, S.M., Colman, A.S., Kluge, T., Olack, G.A., Schauer, A. J., Bajnai, D., Bonifacie, M., Breitenbach, S.F.M., Fiebig, J., Fernandez, A.B., Henkes, G.A., Hodell, D., Katz, A., Kele, S., Lohmann, K.C., Passey, B.H., Peral, M.Y., Petrizzo, D.A., Rosenheim, B.E., Tripathi, A., **Venturelli, R.A.**, Young, E.D., and Winkelstern, I.Z. (2019). Effects of improved  $^{17}\text{O}$  correction on interlaboratory agreement in clumped isotope calibrations, estimates of mineral-specific offsets, and temperature dependence of acid digestion fractionation. *Geochemistry, Geophysics, Geosystems*, 20(7), 3495-3519.
- [2] **Venturelli, R.A.**, Rathburn, A.E., Burkett, A.M., and Ziebis, W. (2018). Epifaunal foraminifera in an infaunal world: insights into the influence of heterogeneity on the benthic ecology of oxygen-poor, deep-sea habitats. *Frontiers in Marine Science*, 5, 344.
- [1] Kilibarda, Z., **Venturelli, R.A.**, and Goble, R. (2014). Late Holocene dune development and shift in dune-building winds along southern Lake Michigan. *Coastline and Dune Evolution along the Great Lakes. Geological Society of America Special Paper*, 508, 47-64.

RESEARCH FUNDING	<b>University of South Florida</b>	
	Von Rosenstiel Innovation Award, 2019	\$5,000
	Project: <i>Isotopic and Carbonate Chemistry Characteristics of an Antarctic Subglacial Lake</i>	
	<b>National Ocean Science Accelerator Mass Spectrometry Laboratory</b>	
	Graduate Student Internship, 2019	\$10,213*
	Project: <i>Investigating Carbon Cycling in an Actively Draining Antarctic Subglacial Lake</i>	
	*analytical cost covered by program	
	<b>Geological Society of America</b>	
	Graduate Student Research Grant, 2018	\$2,000
	Project: <i>Deconvolving Holocene Hydrologic Variability Along the Florida Keys Reef Tract</i>	
FELLOWSHIPS AND AWARDS	<b>University of South Florida</b>	
	COLLEGE OF MARINE SCIENCE	
	Gulf Oceanographic Trust Fellowship, 2018–2019	\$12,000
	Jack and Katharine Ann Lake Fellowship, 2017–2018	\$13,000
	Paul Getting Endowed Memorial Fellowship, 2016–2017	\$13,000
	Anne and Werner Von Rosenstiel Fellowship, 2015–2016	\$25,000
	OFFICE OF GRADUATE STUDIES	
	International Travel Grant, 2017	\$1,519
	Graduate Student Research Symposium Presentation Winner, 2017	\$500
	<b>Indiana State University</b>	
	COLLEGE OF GRADUATE AND PROFESSIONAL STUDIES	
	Research and Creativity Award, 2015	\$500
	EARTH AND ENVIRONMENTAL SYSTEMS	
	Outstanding Graduate Assistant Award, 2015	\$100
	<b>Indiana University Northwest</b>	
	GEOSCIENCES	
	Karen Brunson Memorial Award, 2013	\$300
FIELD EXPERIENCE	<b>Subglacial Antarctic Lakes Scientific Access (SALSA) Project</b>	
	Mercer Ice Stream, West Antarctica	2018-2019
	<i>Subglacial water and sediment sampling</i>	
	McMurdo Station, West Antarctica	2017-2018
	<i>Contamination remediation and preparation of a deep field laboratory</i>	
	<b>Scripps Institution of Oceanography Student Cruises</b>	
	<i>R/V Robert Gordon Sproul</i> (Chief Scientist: Dave Checkley)	2014
	<i>Multicore sediment sampling</i>	
	<i>R/V Robert Gordon Sproul</i> (Chief Scientist: Peter Franks)	2013
	<i>Multicore sediment sampling</i>	
	<b>Geology Field Camp</b> , Michigan Technological University and University of Cape Town	
	Western Cape, South Africa	2011
	<i>Mapping of Proterozoic to modern geologic structures</i>	

TEACHING EXPERIENCE	<b>University of South Florida</b>	
	<i>Teaching Assistant</i>	2017–2020
	Geological Oceanography (2 semesters)	
	Physical Oceanography (1 semester)	
	<b>Indiana State University</b>	
	<i>Laboratory Instructor</i>	2014–2015
	Introduction to Environmental Science (3 semesters)	
	Earth Science (1 semester)	
	Historical Geology (1 semester)	
	<i>Teaching Assistant</i>	2015
PROFESSIONAL ENGAGEMENT	Historical Geology (1 semester)	
	<i>Field Instructor for geologic mapping trip in Western United States</i>	2015
	Structural Geology (1 semester)	
	<b>Michigan Technological University and University of Cape Town</b>	
	<i>Teaching Assistant</i>	2013
	Geology Field Camp in the Western Cape, South Africa	
	<b>Indiana University Northwest</b>	
	<i>Laboratory Instructor</i>	2012–2013
	Introduction to Earth Science (4 semesters)	
	<i>Teaching Assistant</i>	2011–2013
PUBLIC ENGAGEMENT	Geomorphology (2 semesters)	
	History of Earth (2 semesters)	
	Principles of Sedimentation and Stratigraphy (2 semesters)	
	<b>Referee Service</b>	
	Journals: <i>Rapid Communications in Mass Spectrometry, Radiocarbon</i>	
	<b>Conference Service</b>	
	AGU Fall Meeting Session Chair: <i>Sub-Ice-Sheet and Sub-Ice-Shelf Environments: Bridging the Gap Between Modern Observations and Geologic Records</i>	2019, 2020
	Program Organizing Committee: ComSciCon	2018, 2019
	Local Organizing Committee: 5th International Clumped Isotope Workshop	2016
	<b>Presentations</b>	
	Taste of Science Tampa Bay Event	2019
	Title: <i>Subglacial Lake Science: From Space Lasers to Sediments</i>	
	University of South Florida REU program	2019
	Title: <i>Subglacial Lake Science: From Space Lasers to Sediments</i>	
	Campbell Park Elementary School	2018
	Title: <i>What do Antarctic Scientists do?</i>	
	<b>Demonstrations</b>	
	Baypoint Elementary Science Night	2017, 2018, 2019
	<i>Glacier Race and Ocean Circulation Tanks</i>	
	St. Petersburg Science Festival	2015, 2016, 2017, 2018
	<i>Glacier Race and Ocean Circulation Tanks</i>	
	National Ocean Sciences Bowl, Spoonbill Bowl	2015, 2016
	<i>Science Judge</i>	
	<b>Organizational Service</b>	
	St. Petersburg Science Festival Program Committee Chair	2016–2018
	<i>Managed scientific participants for an event that attracts 20-30,000 people per year</i>	

- [16] **Venturelli, R.A.**, Rosenheim, B.E., Leventer, A., Harwood, D., Patterson, M.O., Campbell, T., Siegfried, M.R., Fricker, H.A., SALSA Science team, and the WISSARD Science Team (2019). A Dynamic Holocene Grounding Line: In situ sedimentary evidence from Whillans and Mercer ice streams, West Antarctica. *AGU Fall Meeting*, San Francisco, CA.
- [15] Campbell, T.D., Patterson, M.O., Skidmore, M.L., Leventer, A., Michaud, A. B., Rosenheim, B.E., Harwood, D., Dore, J.E., Tranter, M., **Venturelli, R.A.**, Priscu, J.C., and the SALSA Science Team (2019). Physical and chemical characterization of sediments from Mercer Subglacial Lake, West Antarctica. *AGU Fall Meeting*, San Francisco, CA.
- [14] Priscu, J.C., Barker, J.D., Campbell, T., Christner, B.C., Davis, C., Dore, J.E., Fricker, H.A., Gardner, C.B., Harwood, D.M., Leventer, A., Li, W., Lyons, W.B., Michaud, A.B., Patterson, M.O., Rosenheim, B.E., Siegfried, M.R., Skidmore, M.L., Tranter, M., **Venturelli, R.A.**, Vick-Majors, T., Zook, B., and the SALSA Science Team (2019). SALSA: An Integrated Program Focusing on Carbon Transformations in Mercer Subglacial Lake located 1100 m beneath the West Antarctic Ice Sheet, *AGU Fall Meeting*, San Francisco, CA.
- [13] **Venturelli, R.A.**, Siegfried, M.R., Campbell, T., Fricker, H., Harwood, D., Leventer, A., Michaud, A.B., Patterson, M.O., Rosenheim, B.E., Skidmore, M.L., and the SALSA Science team (2019). Subglacial Sediments Spanning Scales: A Process-To-Paleo Perspective. *26th Annual WAIS Workshop*, Julian, CA.
- [12] Rosenheim, B.E., **Venturelli, R.A.**, Davis, C., Vick-Majors, T, Li, Michaud, A.B., Leventer, A.B., Harwood, D., Christner, B.C., Dore, J.E., Priscu, J.C., and the SALSA Science team (2019). Young Carbon beneath the West Antarctic Ice Sheet: A Unique Carbon Cycle Perspective from Mercer Subglacial Lake. *26th Annual WAIS Workshop*, Julian, CA.
- [11] Campbell, T.D., Patterson, M.O., Skidmore, M.L., Leventer, A., Michaud, A.B., Rosenheim, B.E., Harwood, D., Dore, J.E., Tranter, M., **Venturelli, R.A.**, and the SALSA Science Team (2019). Physical and chemical characterization of sediments from Mercer Subglacial Lake, West Antarctica. *26th Annual WAIS Workshop*, Julian, CA.
- [10] **Venturelli, R.A.**, Rosenheim, B.E., Roush, K., Michaud, A.B., Priscu, J.C., Skidmore, M.L., Dore, J.E., Li, W., Leventer, A., Harwood, D., SALSA Science Team, and the WISSARD Science Team (2019). Subglacial Carbon Pathways Associated with Whillans and Mercer ice streams: A SALSA and WISSARD sedimentary perspective. *XIII International Symposium on Antarctic Earth Sciences*, Incheon, Republic of Korea.
- [9] Rosenheim, B.E., Michaud, A., Broda, J., Gagnon, A., Dore, J.E., Leventer, A., Patterson, M.O., Campbell, T., **Venturelli, R.A.**, Skidmore, M.L., Christner, B.C., Priscu, J.C., and the SALSA Science Team. (2019). Challenges and successes coring sediments from Mercer Subglacial Lake. *XIII International Symposium on Antarctic Earth Sciences*, Incheon, Republic of Korea.
- [8] Davis, C., Li, W., Vick-Majors, T., Barker, J.D., Michaud, A.B., Dore, J.E., Siegfried, M.R., Tranter, M.S., Gardner, C., **Venturelli, R.A.**, Campbell, T., Patterson, M.O., Leventer, A., Harwood, D.M., Rosenheim, B.E., Priscu, J.C., and Christner, B.C. (2019). Life Below an Ice Sheet: Mercer Subglacial Lake, West Antarctica, *Astrobiology Science Conference*.
- [7] **Venturelli, R.A.**, and Rosenheim, B. (2017). The Absurdity of Certainty: Propagation of Error from  $\Delta_{47}$  to  $\delta^{18}\text{O}$  Seawater. *6th International Clumped Isotope Workshop*, Paris, France.
- [6] **Venturelli, R.A.**, Toth, L.T., and Rosenheim, B. (2017). Hard water, old water-hydrologic cycling in the Florida Keys Reef tract and its effect on interpreting radiocarbon reservoir ages. *Goldschmidt*, Paris, France.
- [5] **Venturelli, R.A.**, and Rosenheim, B.E., (2015). Understanding pressure baseline through measurements from an Isoprime 5kV mass spectrometer. *5th International Clumped Isotope Workshop*, St. Petersburg, FL.

- [4] **Venturelli, R.A.**, Rathburn, A.E., Burkett, A.M., Paddack, B.D., and Ziebis, W., (2014). Epifaunal taxa in an infaunal world. *Annual Geological Society of America Annual Meeting*, Vancouver, BC Canada.
- [3] **Venturelli, R.A.**, Rathburn, A., Paddack, B., Burkett, A., Ziebis, W., and Perez, E. The Ecology of Benthic Foraminifera Living in an Oxygen Minimum Zone on the Eastern Pacific Margin. *North-Central Geological Society of America Meeting*, Lincoln, NE.
- [2] **Venturelli, R.A.** and Kilibarda, Z.. Heavy Minerals In Beach And Dune Sand Along Southern Lake Michigan. Annual Geological Society of America Meeting. *Annual Geological Society of America Meeting*, Charlotte, NC.
- [1] **Venturelli, R.A.**, Kilibarda Z., and Graves, N., (2011) Geomorphology of Coastal Dunes Near Southern Shores of Lake Michigan. *Annual Geological Society of America Meeting*, Minneapolis, MN.