

## Ryan A. Venturelli [she/her]

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- CONTACT INFORMATION      College of Marine Science      *Phone:* (219) 808-0251  
University of South Florida      *E-mail:* raventurelli@mail.usf.edu  
St. Petersburg, FL 33701 USA      *Website:* rad-subglacial.github.io
- ACADEMIC APPOINTMENTS      **Postdoctoral Fellow**      Starting February 2021  
Department of Earth and Environmental Sciences  
Tulane University  
Mentor: Dr. Brent M. Goehring
- EDUCATION      **Ph.D. in Marine Geology**      2021  
University of South Florida, St. Petersburg, FL  
Dissertation: *Investigating the Recent History of a Changing Planet with Innovative Isotopic Techniques and New Geologic Archives*  
Advisor: Dr. Brad E. Rosenheim
- M.S. in Earth and Quaternary Systems**      2015  
Indiana State University, Terre Haute, IN  
Thesis: *The Ecology of Deep Sea Benthic Foraminifera on the California Margin: Epifaunal Taxa in an Infaunal World*  
Advisor: Dr. Anthony E. Rathburn
- B.S in Geology**      2013  
Indiana University Northwest, Gary, IN  
Undergraduate Research: *Late Holocene dune development and shift in dune-building winds along southern Lake Michigan*  
Advisor: Dr. Zoran Kilibarda
- MANUSCRIPTS IN REVIEW
- [8] **Venturelli, R.A.**, Vick-Majors, T., Collins, B., Gagnon, A., Kasic, K., Kurz, M., Li, W., Priscu, J.C., Roberts, M., Rosenheim, B.E., and the SALSA Science Team, in review. A framework for transdisciplinary radiocarbon research: Use of natural-level and elevated-level <sup>14</sup>C in Antarctic field research. *Radiocarbon*.
- [7] Priscu, J.C., Kalin, J., Winans, J., Campbell, T., Siegfried, M.R., Skidmore, M., Dore, J., Leventer, A., Harwood, D., Duling, D., Zook, R., Burnett, J., Gibson, D., Krula, E., Mironov, A., Roberts, G., Rosenheim, B. E., Christner, B., Kasic, K., Fricker, H.A., Lyons, W.B., Barker, J., Bowling, M., Collins, B., Davis, C., Gagnon, A., Gardner, C., Gustafson, C., Li, W., Michaud, A.B., Patterson, M.O., Tranter, M., **Venturelli, R.A.**, Vick-Majors, T., in revision. Scientific Access into Mercer Subglacial Lake: Scientific Objectives, Drilling Operations and Initial Observations, *Annals of Glaciology*.
- REFEREED JOURNAL PUBLICATIONS
- [6] Hawkings, J.R., Skidmore, M.L., Wadhams, J.L., Priscu, J.C., Morton, P.L., Hatton, J.E., Gardner, C.B., Kohler, T.J., Stibal, M., Bagshaw, E.A., Steigmeyer, A., Barker, J., Dore, J.E., Lyons, W.B., Tranter, M., Spencer, R.G.M., and the SALSA Science Team (incl. **R.A. Venturelli**). (2020) Enhanced trace element mobilization by Earth's ice sheets. *Proceedings of the National Academy of Science*, 117 (50) 31648-31659, doi: 10.1073/pnas.2014378117.
- [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. (2020) Mid-Holocene grounding line retreat and readvance at Whillans Ice Stream, West Antarctica. *Geophysical Research Letters*, 47, doi: 10.1029/2020GL088476.

- [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), doi: 10.1002/rcm.8303.
- [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 <sup>17</sup>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. doi: 10.1029/2018GC008127.
- [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. doi: 10.3389/fmars.2018.00344.
- [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. doi: 10.1130/2014.2508(04).

RESEARCH  
FUNDING

|  |           |
|--|-----------|
| <b>Von Rosenstiel Innovation Award, 2019</b>   | \$5,000   |
| University of South Florida  |           |
| Project: <i>Isotopic and Carbonate Chemistry Characteristics of an Antarctic Subglacial Lake</i> |           |
| <b>Graduate Student Internship, 2019</b>   | \$10,213* |
| National Ocean Science Accelerator Mass Spectrometry Laboratory                                  |           |
| Project: <i>Investigating Carbon Cycling in an Actively Draining Antarctic Subglacial Lake</i>   |           |
| *analytical cost covered by program  |           |
| <b>Graduate Student Research Grant, 2018</b>   | \$2,000   |
| Geological Society of America  |           |
| 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    |

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|---|---|--------------|
| FIELD<br>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<br>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         |
|   | 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   |              |
| Geomorphology (2 semesters)   |   |              |
| History of Earth (2 semesters)  |   |              |
| Principles of Sedimentation and Stratigraphy (2 semesters)                                |   |              |
| INVITED TALKS   | [3] The Age and Cycling of Carbon beneath the West Antarctic Ice Sheet<br><i>Department of Earth and Environmental Sciences, Tulane University</i>  | 4 Sept. 2020 |
|   | [2] On the origin, age, and cycling of carbon beneath the West Antarctic Ice Sheet<br><i>NOSAMS Advisory Board Meeting, Woods Hole Oceanographic Institution</i>  | 29 Oct. 2020 |
|   | [1] Young Carbon Beneath the West Antarctic Ice Sheet<br><i>Geology and Geophysics Seminar Series, Woods Hole Oceanographic Institution</i>   | 5 Nov. 2019  |
| CONFERENCE<br>ABSTRACTS   | [20] <b>Venturelli, R.A.</b> , Davis, C., Vick-Majors, T., Li, W., Siegfried, M.R., Barker, J.D., Leventer, A., Harwood, D.M., Christner, B.C., Fricker, H.A., Priscu, J.C., Rosenheim, B.E., SALSA Science team (2020). On the origin and cycling of Holocene-aged carbon beneath the West Antarctic Ice Sheet. <i>AGU Fall Meeting</i> , Virtual. |              |

- [19] Neuhaus, S., Tulaczyk, S.M., Stansell, N., Coenen, J.J., **Venturelli, R.A.**, Scherer, R.P., Mikucki, J., Rosenheim, B.E., Powell, R.D. (2020). Mid-Holocene Retreat and Late Holocene Re-advance of the Grounding Line in the Ross Sea Sector. *AGU Fall Meeting*, Virtual.
- [18] Rosenheim, B.E., **Venturelli, R.A.**, Subt, C., Browne, I.M., King, T.M., Campbell, T., Bart, P.J., Dore, J.E., Harwood, D.M., Kingslake, J., Lee, J., Leventer, A., Michaud, A.B., Patterson, M.O., Shevenell, A.E., Siegfried, M.R., Skidmore, M.L., Yoo, K., Yoon, H., SALSA Science Team (2020). What can advances in Antarctic deglacial sediment  $^{14}\text{C}$  dating tell us about grounding line evolution? *AGU Fall Meeting*, Virtual.
- [17] Davis, C., Achberger, A., Barker, J.D., Campbell, T., Dore, J.E., Harwood, D.M., Hawkings, J., Kim, O., Leventer, A., Michaud, A.B., Patterson, M.O., Priscu, J.C., Rosenheim, B.E., Skidmore, M.L., Steigmeyer, A., **Venturelli, R.A.**, Christner, B.C., SALSA Science Team. (2020). Influence of past climate change on subglacial microbial communities and biogeochemical processes beneath Siple Coast ice streams, West Antarctica. *AGU Fall Meeting*, Virtual.
- [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.

PROFESSIONAL  
ENGAGEMENT

**Referee Service**

Journals: *Rapid Communications in Mass Spectrometry*, *Radiocarbon*, *The Cryosphere*

**Conference Service**

|  |            |
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| 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 |
| WAIS Workshop Session Chair: <i>Subglacial environments, processes, and lifeforms:</i>   | 2020       |
| Program Organizing Committee: ComSciCon  | 2018, 2019 |
| Local Organizing Committee: 5th International Clumped Isotope Workshop   | 2016       |

PUBLIC  
ENGAGEMENT

**Presentations**

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| Taste of Science Tampa Bay Event   | 2019 |
| Title: <i>Subglacial Lake Science: From Space Lasers to Sediments</i><br>University of South Florida REU program | 2019 |
| Title: <i>Subglacial Lake Science: From Space Lasers to Sediments</i><br>Campbell Park Elementary School         | 2018 |
| Title: <i>What do Antarctic Scientists do?</i>   |      |

**Demonstrations**

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|---|------------------------|
| Baypoint Elementary Science Night   | 2017, 2018, 2019       |
| <i>Glacier Race and Ocean Circulation Tanks</i><br>St. Petersburg Science Festival              | 2015, 2016, 2017, 2018 |
| <i>Glacier Race and Ocean Circulation Tanks</i><br>National Ocean Sciences Bowl, Spoonbill Bowl | 2015, 2016             |
| <i>Science Judge</i>  |                        |

**Organizational Service**

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|---|-----------|
| 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> |           |