

ADAM D. SKARKE

Curriculum Vitae

Mississippi State University
Department of Geosciences
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EDUCATION:

- Ph.D. Geology, University of Delaware, Newark, DE, 2013
- M.S. Geology, University of Delaware, Newark, DE, 2008
- B.A. Geology (with Honors), Colgate University, Hamilton, NY, 2003

PROFESSIONAL APPOINTMENTS:

- 2020-present: Associate Professor of Geology, Department of Geosciences, Mississippi State University, Mississippi State, MS
- 2015-present: Research Fellow, Geosystems Research Institute, Mississippi State University, Mississippi State, MS
- 2014-2020: Assistant Professor of Geology, Department of Geosciences, Mississippi State University, Mississippi State, MS
- 2013: Postdoctoral Associate, Geosystems Research Institute, Mississippi State University, Mississippi State, MS
- 2011-2013: Physical Scientist, Office of Ocean Exploration and Research, National Oceanic and Atmospheric Administration, Durham, NH

AWARDS AND HONORS:

- 2018: Faculty Research Award: Mississippi State University College of Arts and Sciences
- 2018: Research Award in Natural and Physical Sciences: Mississippi State University College of Arts and Sciences
- 2016-2018: Early Career Research Fellowship: The National Academies of Sciences, Engineering, and Medicine, Gulf Research Program
- 2016: Named Co-Chief Scientist for NSF/UNOLS Early Career Deep Submergence Training Cruise AT-36
- 2015: Researcher of the Month: Mississippi State University College of Arts & Sciences (November/December)
- 2013: Bravo Zulu Award: NOAA Office of Ocean Exploration and Research
- 2010-2011: Professional Development Award: University of Delaware
- 2010-2011: Dissertation Fellowship: University of Delaware
- 2009: Outstanding Teaching Assistant Award: University of Delaware Department of Geology

2008: Frances Severence Academic Council Award for Best Thesis in Geology: University of Delaware
2006: Student Equipment Grant: Nortek USA
2003-2005: Coastal and Marine Geosciences Fellowship: University of Delaware

TEACHING:

Mississippi State University

Applied Geophysics, Enrollment: 15-19
Coastal Environments, Enrollment: 42-53
Geoscience Seminar and Geologic Literature, Enrollment: 7-20
Introduction to Oceanography, Enrollment: 30-33
Principles of Sedimentary Deposits I (Sedimentology), Enrollment: 7-28
Principles of Sedimentary Deposits II (Stratigraphy), Enrollment: 6-23
Special Topic: Marine Geology, Enrollment: 9
Special Topic: Sequence Stratigraphy, Enrollment: 5-6

University of Delaware

Geological Hazards, Enrollment: 125-147

FUNDED PROJECTS:

Total Extramural Funding as PI or Co-PI: \$3,183,015 [Portion to Skarke: \$1,016,264]

PI: US Department of Treasury Grant No [8006490-05.01] The distribution of submarine groundwater discharge and its effect on coastal water quality in Mississippi, Mississippi Based RESTORE Act Center of Excellence (MBRACE), **\$450,052**, February 2020-January 2022. Portion of funding to Skarke: **\$130,228**.

PI: National Oceanic and Atmospheric Administration (NOAA) Grant No. [NA16OAR4320199] Geospatial analysis of deep-sea environments using ROV video data with the Coastal Marine Ecological Classification Standard (CMECS) \$19,190, September 2019 – August 2021. Portion of funding to Skarke: **\$19,190**.

PI: United States Department of Agriculture (USDA) Grant No. [58-6001-8-001] Wave Erosion of Cohesive Embankments and Field Testing of Experimental Floating Wave Barriers \$96,899, August 2018 – July 2021. Portion of funding to Skarke: **\$96,899**.

PI: University Corporation for Atmospheric Research (UCAR) Grant No. [SUBAWD000586] NOAA Ship *Okeanos Explorer* Expedition EX1803. \$13,752, March 2018 – September 2018. Portion of funding to Skarke: **\$13,752**.

Co-PI: The National Academies of Sciences, Engineering, and Medicine Grant No [NAS 2000008944] The Efficacy of Marsh Terraces in Enhancing and Restoring Gulf

Coastal Wetlands, **\$852,386**, January 2018-December 2020. Portion of funding to Skarke: **\$170,477**.

Co-PI: US Department of Treasury (via University of Southern Mississippi) Grant No [USM-GR05698-002] Water Quality and Benthic Habitat Observations for Enhanced Understanding and Sustainable Management of Oyster Reefs in Mississippi Sound, Mississippi Based RESTORE Act Center of Excellence (MBRACE), **\$624,953**, June 2017-December 2019. Portion of funding to Skarke: **\$206,235**.

PI: The National Academies of Sciences, Engineering, and Medicine Grant No [NAS 2000007272] The National Academies of Sciences, Engineering, and Medicine, Gulf Research Program, Early Career Research Fellowship, \$76,000, September 2016-December 2018. Portion of funding to Skarke: **\$76,000**.

PI: An Interactive Augmented Reality Sandbox for Three-Dimensional Visualization of Earth Surface Processes and Development of Spatial Reasoning Skills, Mississippi State University Schillig Special Teaching Project, \$2,715 (Internal), May, 2016-May 2017.

Co-PI: National Oceanic and Atmospheric Administration (NOAA) Grant No. [NA11OAR4320199] Telepresence, Information Management, and Data Product Development Stennis Exploration Command Center, **\$164,147**, August 2014-May 2017. Portion of funding to Skarke: **\$82,074**.

Co-PI: Bringing the "Field" into Earth Science Classrooms: Geological Specimens, Samples, Models, and Manuals to Facilitate Inquiry Investigations and Active Learning, Mississippi State University Schillig Special Teaching Project, \$2,999 (Internal), May, 2015-May 2016.

Co-PI: National Oceanic and Atmospheric Administration (NOAA) Grant No. [NA14OAR4830128] Comparative Impacts of Emerging Hurricane Observing Technologies using Wave Glider and EMILY Unmanned Surface Vehicles, **\$885,636**, July 2014-July 2016. Portion of funding to Skarke: **\$221,409**.

PEER-REVIEWED PUBLICATIONS:

* denotes authorship by advised student

Lee*, T. R., Phrampus, B. J., Obelcz, J., Wood, W. T., & Skarke, A. (2020). Global marine isochore estimates using machine learning. *Geophysical Research Letters*, 47, e2020GL088726. doi: **10.1029/2020GL088726**

Gabitov, R., C. Borrelli, J. Buettner, B. Kirkland, A. **Skarke**, D. Trail, B. Garner, M. Testa, M. Wahidi, C. Hoff, S. Khasanov, G. Panieri, R. Thirumalai, J. Thomas, J. Weremeichik, and I. Zverkova (2019), Characterization of Carbonate Crust from a

Recently Discovered Methane Seep on the North Atlantic Continental Margin of the USA, *Minerals*, 9(138), 1–15, doi:10.3390/min9030138.

McVeigh, D., A. Skarke, A. E. Dekas, C. Borrelli, W.-L. Hong, J. Marlow, A. Pasulka, S. P. Jungbluth, R. A. Barco, and A. Djurhuus (2018), Characterization of Benthic Biogeochemistry and Ecology at Three Methane Seep Sites on the Northern U.S. Atlantic Margin, *Deep Sea Res. Part II Top. Stud. Oceanogr.*, (150), 1–16, doi:10.1016/j.dsr2.2018.03.001.

Marlow, J., C. Borrelli, S. P. Jungbluth, C. Hoffman, J. Marlow, P. R. Girguis, A. Dekas, A. Skarke, M. D. Blackman, D. Fornari, A. Soule, C. Van Dover, L. Bagge, R. Barco, B. Boulahanais, K. Bowman, M. Brugler, S. Bush, A. Djurhuus, J. Fernandez, R. Fulweiler, J. Kinsey, K. Kocot, D. McVeigh, M. Navarro, A. Netburn, A. Pasulka, K. Twing, A. Wagner, and J. Zambon (2017), Telepresence is a potentially transformative tool for field science, *Proceedings of the National Academy of Sciences of the United States of America*, 114(19), 4841–4844, doi:10.1073/pnas.1703514114.

Fitzpatrick, P. J., Y. Lau, R. Moorhead, A. Skarke, D. Merritt, K. Kreider, J. Masters, R. Carlon, G. Hine, T. Lampoudi, and A. Leonardi (2016), Further analysis of the 2014 Gulf of Mexico Wave Glider® field program. *Marine Technology Society Journal*, 50(3), 72-75. doi:10.4031/mts.50.3.3

DuVal, C., A. Trembanis, and A. Skarke (2016), Characterizing and hindcasting ripple bedform dynamics: Field test of non-equilibrium models utilizing a fingerprint algorithm. *Continental Shelf Research*, 116, 103-115. doi:10.1016/j.csr.2015.12.015

Quattrini, A.M., M.S Nizinski, J.D Chaytor, A.W.J. Demopoulos, E.B. Roark, S.C. France, J.A. Moore, T. Heyl, P.J. Auster, B. Kinlan, C. Ruppel, K.P. Elliott, B.R.C. Kennedy, E. Lobecker, A. Skarke, and T.M. Shank (2015), Exploration of the Canyon-Incised Continental Margin of the Northeastern United States Reveals Dynamic Habitats and Diverse Communities. *PLoS ONE* 10(10): e0139904. doi:10.1371/journal.pone.0139904

Fitzpatrick, P. J., Y. Lau, D. Merritt, R. Moorhead, A. Skarke, K. Kreider, C. Brown, R. Carlon, G. Hine, T. Lampoudi, and A. Leonardi (2015), A review of the 2014 Gulf of Mexico Wave Glider® field program. *Marine Technology Society Journal*, 49, 64-71. doi: 10.4031/mts.49.3.14

Skarke, A., C. Ruppel, M. Kodis*, D. Brothers, and E. Lobecker (2014), Widespread methane leakage from the sea floor on the northern US Atlantic margin, *Nature Geoscience*, 7(9), 657-661. doi:10.1038/ngeo2232

Brothers, L., C. Van Dover, C. German, C. Kaiser, D. Yoerger, C. Ruppel, E. Lobecker, A. Skarke, and J. Wagner (2013), Evidence for extensive methane venting on the

southeastern US Atlantic margin, *Geology*, 41(7), 807-810. doi: **10.1130/G34217.1**

Skarke, A., and A. C. Trembanis (2011), Parameterization of bedform morphology and defect density with fingerprint analysis techniques, *Continental Shelf Research*, 31(16), 1688-1700. doi: 10.1016/j.csr.2011.07.009

Trembanis, A., S. Nebel, A. **Skarke**, D. Coleman, R. Ballard, A. Yankovsky, I. Buynevich, and S. Voronov (2011), Bedforms, coastal-trapped waves, and scour process observations from the continental shelf of the northern Black Sea, *Geological Society of America Special Papers*, 473, 165-178.
doi:10.1130/2011.2473(10)

NON-REFEREED PUBLICATIONS:

France, S.C., D. Amon, C. Messing, A. Skarke, D. Wagner, M.P. White, B.R.C. Kennedy, and N. Pawlenko (2019), Deep-Sea Exploration of the US Gulf of Mexico with NOAA Ship *Okeanos Explorer*, in : Raineault, N.A, and J. Flanders (Eds.) New frontiers in ocean exploration: The E/V Nautilus, NOAA Ship Okeanos Explorer, and R/V Falkor 2018 field season. *Oceanography*, 32(1): **doi:10.5670/oceanog.2019.supplement.01.**

Dekas, A. E., and A. **Skarke** (2017), Early-career scientists explore newly discovered methane seeps, *Eos*, 98, doi: **c10.1029/2017EO068011**. Published on 10 March 2017.

Dekas, A. E., and A. **Skarke** (2016), *AT36 Cruise Report*. Woods Hole Oceanographic Institution, Woods Hole, MA, USA.

Crawford, A., and A. **Skarke** (2014), Automatic detection of sand ripple features in sidescan sonar imagery. *Proceedings of MTS/IEEE Oceans 2014*, Saint Johns, Newfoundland, Canada, Sept 14-19. doi:**10.1109/oceans.2014.7003117**

Skarke, A. (2013), Coastal Morphodynamics of the Estuary-Shelf Interface. Doctoral Dissertation: University of Delaware, Newark, DE, USA.

Russell, C.W., W. Pinner, D. Lovalvo, A. **Skarke**, E. Lobecker, M. Malik, and LT M. Nadeau (2012), Technology: NOAA Ship Okeanos Explorer, in : Bell, K.L.C., K. Elliott, C. Martinez, and S.A. Fuller (Eds.) New Frontiers in Ocean Exploration: The E/V *Nautilus* and NOAA Ship *Okeanos Explorer* 2011 Field Season. *Oceanography*, 25(1): 12-14 doi:**10.5670/oceanog.2011.supplement.01.**

Kraatz, L.M., A. **Skarke**, A.C. Trembanis, and C.T. Friedrichs (2011), Approaches for quantifying seabed morphology – techniques for utilizing rotary sonar systems. *Proceedings of the International Conference on Coastal Sediments 2011*.
doi:10.1142/9789814355537_0080

Schmidt, V., N. Raineault, A. **Skarke**, A. Trembanis, and L. Mayer (2010), Correction

of Bathymetric Survey Artifacts Resulting Apparent Wave-Induced Vertical Position of an AUV, *Report for University of New Hampshire (UNH), Center for Coastal and Ocean Mapping (CCOM)/Joint Hydrographic Center (JHC), Durham, NH, 13p.*

Skarke, A., B.L. Lipphardt Jr., P. Muscarella, K.C. Wong, A. Trembanis, and M. Badiey (2008), Comparison of HF radar and ADCP surface currents at the Delaware Bay mouth. *Proceedings of the IEEE/OES/CMTC Ninth Working Conference on Current Measurement Technology.* doi: **10.1109/CCM.2008.4480866**

Skarke, A. (2008), Applications of Chirp Sonar Acoustic Reflection Coefficients for Seafloor Sediment Characterization. Master's Thesis: University of Delaware, Newark, DE, USA.

Loper, C. E., M. C. Balgos, J. Brown, B. Cicin-Sain, P. Edwards, C. Jarvis, J. Lilley, I. Torres de Noronha, A. **Skarke**, and J. F. Tavares (2005), Small Islands, Large Ocean States: A Review Of Ocean And Coastal Management In Small Island Developing States Since The 1994 Barbados Programme Of Action For The Sustainable Development Of Small Island Developing States (SIDS). *Toward Mauritius 2005 Paper Series No. 2005-1.* Global Forum on Oceans Coasts and Islands: University of Delaware, Newark, USA.

INVITED PRESENTATIONS:

Skarke, A. (2018), Collaboration to Compile Open-Source Sites of Seafloor Fluid Expulsion Anomalies. Town Hall Session TH53B at 2018 Fall Meeting, American Geophysical Union, Washington, DC., 14 December.

Skarke, A. (2018), The Discovery of Widespread Seafloor Methane Discharge on the US Atlantic Margin and Characterization of Associated Deep Sea Gas Seep Environments. Invited departmental seminar for the University of South Carolina School of the Earth, Ocean, and Environment. Columbia, SC. 25 October.

Skarke, A. (2018), An Expanded Inventory of Seafloor Gas Seeps on the US Atlantic Margin with Implications for Seep Ephemerality. The United States Naval Research Laboratory. Stennis Space Center, MS. 15 August.

Skarke, A. (2018), Development and Evaluation of the EMILY Unmanned Surface Vehicle. Unmanned Maritime Systems Program. The University of Southern Mississippi. Stennis Space Center, MS. 9 April.

Skarke, A. (2017), Discovery of Widespread Seafloor Methane Discharge on the US Atlantic Margin and Characterization of Deep Sea Gas Seep Environments. Invited departmental seminar for the Department of Geology & Geological Engineering at The University of Mississippi. Oxford, MS. 6 November.

Skarke, A. (2017), Geological Fieldwork at the Bottom of the Ocean: Deep Sea

Exploration on the Submersible Alvin. Invited departmental seminar for the Department of Geosciences at Georgia State University. Atlanta, GA. 13 April.

Skarke, A. (2015), Widespread Seafloor Methane Discharge on the US Atlantic Margin: Implications for Benthic Ecology and Carbon Cycling. Invited departmental seminar for the Department of Marine, Earth, and Atmospheric Sciences at North Carolina State University. Raleigh, NC. 9 November.

Skarke, A. (2014), From Dunes to the Deep Sea: Field Observations Across the Continental Margin. NOAA National Data Buoy Center, Stennis Space Center, MS. 24 January

Skarke, A. and Lobecker, E. (2012), NOAA's *Okeanos Explorer* Program: Three years of telepresence enabled ocean exploration. University of New Hampshire Center for Coastal and Ocean Mapping. Durham, NH. 3 February.

Skarke, A. (2010), From ripples to hummocks: Observations of non-equilibrium bedform evolution under combined flow conditions. College of William and Mary, Virginia Institute of Marine Science, Department of Physical Sciences. Gloucester Point, VA. 4 November.

Skarke, A. (2008), Wave measurement and bedform evolution on a barrier shoreface and cape-associated shoal. NortekUSA Technical Symposium. Vicksburg, MS. 15 May.

Skarke, A. (2006), Application of chirp sonar acoustic reflection coefficient for seafloor sediment classification: Results from the Delaware Estuary. University of Delaware, Center for Applied Coastal Research, Ocean Engineering Seminar Series, Newark, DE. 26 September.

CONFERENCE PRESENTATIONS

* denotes authorship by advised student

French*, J.E., A. **Skarke**, A. Linhoss, M. Brasher, and R. Osorio (2020), The optimization of marsh terracing as a wetland restoration technique: Mitigating cohesive sediment erosion from wind driven waves. Abstract B052-0013 presented at 2020 Fall Meeting, American Geophysical Union, 1-17 Dec.

Lee*, T.R., B. Phrampus, W. Wood, and A. **Skarke** (2020), A new estimate of carbon sequestered within the global methane hydrate stability zone using machine-learning predicted inputs. Abstract OS029-0004 presented at 2020 Fall Meeting, American Geophysical Union, 1-17 Dec.

Luciano, A., T.R. Lee*, B. Phrampus, J. Obelcz, W. Wood, A. **Skarke** (2020), An updated global prediction of marine unit thicknesses for present to middle Miocene

sediments using Ocean Drilling Program data. Abstract EP060-0001 presented at 2020 Fall Meeting, American Geophysical Union, 1-17 Dec.

Skarke, A., G. E. Hernandez*(2020), Spatial Relationship Between Methane Seeps and Geomorphological Properties of the Seafloor on the US Atlantic Margin. OS016-0009 presented at 2020 Fall Meeting, American Geophysical Union, 1-17 Dec.

Osorio, R., A. Linhoss, A. **Skarke**, M. Brasher, and J. French* (2020), Assessment of wave regimes for optimal implementation of marsh terracing in the northern Gulf of Mexico, a modeling approach. Abstract BBS20414 presented at 2020 Bays and Bayous Symposium, 1-3 Dec.

French*, J. E., A. **Skarke**, and M. Brasher (2020), Effect of tropical storm and frontal passage on marsh erosion in terraced coastal wetlands. Abstract CP24D-1166 presented at 2020 Ocean Sciences Meeting, San Diego, CA., 16-21 Feb.

Skarke, A. and M. W. Kidiwela* (2020), Discovery and characterization of two methane seep fields with unique fluid discharge features on the US Atlantic continental margin. Abstract IS24C-3317 presented at 2020 Ocean Sciences Meeting, San Diego, CA., 16-21 Feb.

Skarke, A. and D. Adcock* (2019), Geologic Control of Submarine Groundwater Discharge in the Mississippi Sound. Abstract H53I-1886 presented at 2019 Fall Meeting, American Geophysical Union, San Francisco, Calif., 9-13 Dec.

Lee*, T. R., W. Wood, A. Skarke, B. Phrampus, J. Obelcz (2019) Global machine learning predictions of sediment unit thickness for present to middle Miocene using Deep Sea Drilling Project data. Abstract PP11D-1414 presented at 2019 Fall Meeting, American Geophysical Union, San Francisco, Calif., 9-13 Dec.

Skarke, A., M. Brasher, B. Davis, A. Linhoss, R. Moorhead, M. Woodrey, M. Armandei, J. French*, M. McFarland, R. Osorio, F. Vizcarra (2019), Optimizing Marsh Terrace Design for Wetland Restoration and Avian Habitat Associations. 25th Biennial Coastal and Estuarine Research Federation Conference, Mobile, AL, November 3-7.

French*, J., A. **Skarke**, R. Osorio, A. Linhoss, M. Brasher (2019), Assessing the Efficacy of Marsh Terracing for Coastal Wetland Restoration in Louisiana. 25th Biennial Coastal and Estuarine Research Federation Conference, Mobile, AL, November 3-7.

McFarland, M., M. Armandei, M. Brasher, B. Davis, J. French*, A. Linhoss, R. Moorhead, R. Morillo, A. **Skarke**, F. Vizcarra, M. Woodrey (2019) The Efficacy of Marsh Terraces for Enhancing and Restoring Gulf Coastal Wetlands. Southeastern

Association of Fish and Wildlife Agencies Conference, Hilton Head, SC. October 27-30.

Etnoyer, P., R. Bassett, C. Ruby, A. **Skarke**, M. Malik (2019), Leveraging telepresence and GIS technology to create rapid substrate distribution maps from ROV video and support studies of deep-sea corals. Abstract ISDSC7_035 presented at the 7th International Symposium on Deep Sea Corals, Cartagena, Columbia, 29 Jul.-2 Aug.

Lee*, T.R., W.T. Wood, B.J. Phrampus, J. Oblecz, and A. **Skarke** (2019), Predicting Sediment Property Vertical Profiles on the Mid-Atlantic Ridge Using Machine Learning. Abstract EGU2019-10400 presented at the 2019 General Assembly of the European Geophysical Union, Vienna, Austria, 7-12 Apr.

Flickinger, D., J.C. Rodgers, P. Dash, and A. **Skarke** (2019), Analysis of suspended particulate matter concentrations in Weeks Bay, Alabama using Landsat imagery. Presented at the 2019 American Association of Geographers Annual Meeting, Washington, DC, 3-7 Apr.

Adcock*, D., and A. **Skarke** (2019), Characterizing the Pleistocene Paleodrainage Network of the Western Mississippi Sound. Presented at 2019 Meeting of the Mississippi Academy of Science, Hattiesburg, MS, 20-22 Feb.

Skarke, A. and D. Adcock* (2019), Geologic Control of Submarine Groundwater Discharge Proximal to Oyster Reefs in Mississippi Sound. Presented at 2019 Meeting of the Mississippi Academy of Science, Hattiesburg, MS, 20-22 Feb.

Adcock*, D., and A. **Skarke** (2018), Characterizing the Pleistocene Drainage Network Under the Western Mississippi Sound. Abstract OS11F-1464 presented at 2018 Fall Meeting, American Geophysical Union, Washington, DC, 10-14 Dec.

Kidiwela*, M., and A. **Skarke** (2018), An Expanded Inventory of Methane Seeps on the US Atlantic Margin. Abstract OS33C-1912 presented at 2018 Fall Meeting, American Geophysical Union, Washington, DC, 10-14 Dec.

Malik, M., E. Lobecker, D. Sowers, M. White, A. **Skarke**, L. Gray, C. Wilkins, K.L. Cantwell, S. T. Gottfried, D.E. Sallis, T. Toft, M. Cromwell, C. Peters, E. Stuart (2018), Celebrating 10 years of NOAA Ship Okeanos Explorer Mapping Program: A look back on achievements and lessons learned. Abstract OS31G-1873 presented at 2018 Fall Meeting, American Geophysical Union, Washington, DC, 10-14 Dec.

Skarke, A., C. Ruppel, M. Kidiwela*, W. Baldwin, and W. Danforth (2018), Expanded U.S. Atlantic Margin Seep Inventory Yields Insight into Methane Dynamics. Abstract OS33C-1913 presented at 2018 Fall Meeting, American Geophysical Union, Washington, DC, 10-14 Dec.

Beshah, W., P. Dash, A. **Skarke**, and R.J. Moorhead (2018), An interactive map-based water quality visualization tool for the Gulf of Mexico. Presented at the Alabama Mississippi Bays and Bayous Symposium, Mobile, AL, 28-29 Nov.

Burger, W., K. Evans, P. Lang, A. **Skarke**, and G. Wang (2018), High Resolution Dune Geomorphology to Inform Conservation Planning in the Northern Gulf of Mexico. Presented at the Southeastern Association of Fish & Wildlife Agencies, Mobile, AL, 21-24 Oct.

Gabitov, R.I., C. Borrelli, A. Cremiere, B. Kirkland, G. Panieri, A. **Skarke**, N. Van Hartesveldt, and M. Wahidi (2018), Carbonate crust from a recently discovered methane seep along the North Atlantic continental margin of the US: isotopic characterization. Presented at the 14th International Conference on Gas in Marine Sediments, Haifa, Israel, 14-18 Oct.

Li, Y., H. Gao, and A. **Skarke** (2018), Chlorophyll-a Variations on the Northern US Atlantic Margin, Poster 128 presented at Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA, 5-8 Feb.

Skarke, A (2017), High-Resolution Seafloor Mapping at a Deep-Sea Methane Seep Field with an Autonomous Underwater Vehicle, Abstract OS41A-1379 presented at 2017 Fall Meeting, American Geophysical Union, New Orleans, LA., 11-15 Dec.

Gabitov, R., C. Borrelli, J. Buettner, M. Testa, B. Garner, J. Weremeichick, J.B. Thomas, M. Wahidi, R.V.K.G. Thirumalai, B. Kirkland, and A. **Skarke** (2017), Characterization of Carbonate Crust from Deep-sea Methane Seeps on the Northern US Atlantic Margin, Abstract EP13A-1595 presented at 2017 Fall Meeting, American Geophysical Union, New Orleans, LA., 11-15 Dec.

Skarke, A (2016), Widespread Methane Discharge from the Seafloor on the Northern US Atlantic Margin, Abstract 01 presented at National Academies Keck Futures Imitative Conference: Discovering the Deep Blue Sea, Irvine, Calif., 9-12 Nov.

Merritt*, D., A. **Skarke**, S. Silwal, and P. Dash (2016), Remote Sensing of Suspended Sediment Dynamics in the Mississippi Sound. Abstract EC34D-1211 presented at 2016 Ocean Sciences Meeting, New Orleans, LA., 21-26 Feb.

Mullenex*, A., and A. **Skarke** (2016), Antecedent Geologic Control on the Evolution of Fetch-Limited Barrier Islands in the Mississippi Sound. Abstract MG44B-1991 presented at 2016 Ocean Sciences Meeting, New Orleans, LA., 21-26 Feb.

Ruby*, C., A. **Skarke**, and S. Mesick (2016), Application of the Coastal and Marine Ecological Classification Standard to ROV Video Data for Enhanced Analysis of Deep-

Sea Habitats in the Gulf of Mexico. Abstract ME34B-0810 presented at 2016 Ocean Sciences Meeting, New Orleans, LA., 21-26 Feb.

Skarke, A. and A. Trembanis (2016), Bedform Morphodynamics Under Combined High-Energy Wave and Tidal Current Forcing. Abstract EC24B-1089 presented at 2016 Ocean Sciences Meeting, New Orleans, LA., 21-26 Feb.

Skarke, A (2015), New Insights into the Temporal Variability of Seafloor Methane Discharge on the Northern US Atlantic Margin, Abstract OS33A-1996 presented at 2015 Fall Meeting, American Geophysical Union, San Francisco, Calif., 14-18 Dec.

Turner, P., B. Ball, E. Cole, A. LaBella, J. Wagner, C. Van Dover, A. **Skarke**, and C. Ruppel (2015), SeepC: Preliminary Characterization of Atlantic Margin Seep Ecosystems from Norfolk Canyon to New England Seep Sites, Abstract OS33A-2008 presented at 2015 Fall Meeting, American Geophysical Union, San Francisco, Calif., 14-18 Dec.

Turner, P., A. **Skarke**, C. Ruppel, B. Ball, J. Wagner, E. Cole, C. Kaiser, C.L. Van Dover (2015), SeepC: Preliminary characterization of Atlantic Margin seep ecosystems: Norfolk, Hudson, Veatch, and Nygren Canyon seep sites. Abstract 339 presented at the 14th Deep Sea Biology Symposium, Aveiro, Portugal, 31 Aug-4 Sep.

Fitzpatrick, P., Y. Lau, J. Nicinska, R. Moorhead, A. **Skarke**, D. Merritt, K. Kreider, C. Brown, R. Carlon, G. Hine, T. Lampoudi, and A. Leonardi (2015), A Review of the 2014 Gulf of Mexico Wave Glider Field Program. 69th Interdepartmental Hurricane Conference, 2-5 March, Jacksonville, FL, USA.

Skarke, A., C. Ruppel, and D. Brothers (2014), Physical Conditions Associated with Widespread Seafloor Methane Discharge on the Northern US Atlantic Margin, Abstract OS11C-02 presented at 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec.

Ruppel, C., T. Weber, J. Kessler, J. Pohlman, and A. **Skarke** (2014), Methane Hydrate Dissociation and Gas Seepage on Global Upper Continental Slopes Driven by Intermediate Ocean Warming, Abstract OS11C-01 presented at 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec.

Babineaux, C. E., B.L. Kirkland, and A.D. **Skarke** (2014), Incorporating Cullet into Beach Ecosystems: Analysis of Public Opinion, Transport, and Effects on Biota Health, AEG Meeting, 20-28 September, Scottsdale, AZ, USA.

Fitzpatrick, P., Y. Lau, J. Nicinska, R. Moorhead, A. Leonardi, A. **Skarke**, R. Chadwick, and R. Kincaid (2014), The Tropical Cyclone Experimental Program to Enable Unmanned Surface Systems (TEMPEST). International Conference on Mesoscale

Meteorology and Tropical Cyclones, 15-18 September, Boulder, CO, USA.

Kodis*, M., A. **Skarke**, C. Ruppel, T. Weber, E. Lobecker, and M. Malik (2013), US Atlantic Margin Methane Plumes Identified From Water Column Backscatter Data Acquired by NOAA Ship Okeanos Explorer, Abstract OS21A-1612 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.

Lobecker, E., M. Malik, and A. **Skarke** (2013), NOAA Ship Okeanos Explorer 2013 Field Season on the US Atlantic Continental Margin, Abstract OS33B-1762 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.

Malik, M., N. Valette-Silver, E. Lobecker, A. **Skarke**, K. Elliott, and J. McDonough (2013), To Explore or to Research: Trends in modern age ocean studies, Abstract OS33B-1763 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.

Skarke, A., C. Ruppel, M. Kodis*, E. Lobecker, and M. Malik (2013), Geologic Significance of Newly Discovered Methane Seeps on the Northern US Atlantic Margin, Abstract OS21A-1613 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.

Brothers, L., C. Van Dover, C. German, D. Yoerger, C. Kaiser, M. Lobecker, A. **Skarke**, and C. Ruppel (2012), Evidence of Extensive Gas Venting at the Blake Ridge and Cape Fear Diapirs, Abstract OS41E-05 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

Lobecker, E., M. Malik, A. **Skarke**, and N. VerPlanck (2012), Integration of NOAA Ship Okeanos Explorer Seafloor Mapping, Little Hercules ROV, and Sentry AUV Data into Ocean Exploration Operations and Public Data Holdings, Abstract OS51E-1925 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

Skarke, A., E. Lobecker, M. Malik, and N. VerPlanck (2012), NOAA Ship Okeanos Explorer 2012 Field Season in the Northern Gulf of Mexico and US Atlantic Continental Margin, Abstract OS51D-1913 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

Schmidt, V., T. Weber, L. Mayer, A. Trembanis, A. **Skarke**, and N. Raineault (2011), "Most Probable Angle Analysis:" Automated Processing of Phase-Measuring Bathymetric Sidescan Data. US Hydrographic Conference. 25-28 April, Tampa, FL, USA.

Cornelisen, C., P. Gillespie, V. Schmidt, A. **Skarke**, A. Forrest, A. Trembanis, R. Forrest, and W. Jiang (2010), Variability in the nephroid layer of Tasman Bay as revealed through use of an autonomous underwater vehicle and conventional instrumentation, New Zealand Marine Sciences Society Conference. 7-9 July,

Wellington, NZ.

Schmidt, V., N. Raineault, A. **Skarke**, A. Trembanis, and L. Mayer (2010), Correction of bathymetric survey artifacts resulting from apparent wave-induced vertical position of an AUV. Canadian Hydrographic Conference. 21-13 June, Quebec City, Canada.

Skarke, A. and A. Trembanis (2010), A conceptual model of non-equilibrium bedform evolution under combined wave and tidal current forcing, *Geological Society of America Abstracts with Programs*, 42(1), 60.

Skarke, A. and A. Trembanis (2010), Parameterization of non-equilibrium seabed morphology in a hydrodynamically complex bay mouth environment; *Eos Transactions. American Geophysical Union*, 91(26), Ocean Sciences Meeting Supplement. Abstract PO14B-07.

Trembanis, A., A. **Skarke**, N. Raineault, V. Schmidt, and L. Mayer (2010), Detailed variability of ripple geometry within a sorted bedform feature, *Geological Society of America Abstracts with Programs*, 42(1), 60.

Skarke, A., and A. Trembanis (2008) Micromorphodynamic evolution of bedforms on a transgressive barrier shoreface and cape-associated shoal; *Eos Transactions. American Geophysical Union*, Ocean Sciences Meeting Supplement. Abstract 165-1248.

Trembanis, A., A. **Skarke**, D. Coleman, R. Ballard, S. Fuller, I. Buynevich, and S. Voronov (2007), Bedforms, internal waves, and scour processes: morphodynamic behavior on the continental shelf of the northern Black Sea, *Geological Society of America Abstracts with Programs*, 39(6), 430.

Skarke, A. D. and J. A. Madsen (2006), The capacity of chirp sonar for remote classification of benthic sediments in an estuarine environment, *Geological Society of America Abstracts with Programs*, 38(7), 367.

Skarke, A. D., J. A. Madsen, C.K. Sommerfield (2004), Applications of chirp sonar acoustic reflection coefficients for bottom sediment characterization: Results from the upper Delaware estuary, *Geological Society of America Abstracts with Programs*, 36(5), 290.

Skarke, A.D., and C.E. McClennen (2003), Late-glacial and Holocene evolution of Lake Ontario; lake-level, isostatic rebound, and sediment deposition, *Geological Society of America Abstracts with Programs* 35(3), 26.

PROFESSIONAL SERVICE:

Institutional

- 2018-Present: Department of Geosciences Graduate Curriculum Task Force (*ad hoc* committee)
- 2018-Present: Department of Geosciences Geology Team Leader
- 2018-Present: Department of Geosciences Strategic Planning Committee
- 2020 -Present: Northern Gulf Institute Meteorology Faculty Search Committee
- 2019-2020: Department of Geosciences Geology/Geography Instructor Search Committee (Chair)
- 2018-2019: Department of Geosciences Structural Geology Faculty Search Committee (Chair)
- 2018: Department of Geosciences Business Manager Search Committee
- 2016: Department of Geosciences Engineering Geology Faculty Search Committee
- 2015: MSU College of Arts and Sciences Associate Dean for Research and Graduate Studies Search Committee
- 2015-2018: Department of Geosciences Governance Committee
- 2014-2016: Department of Geosciences Representative to MSU College of Arts and Sciences Faculty Senate
- 2014-2018: Department of Geosciences Laboratory Committee
- 2014-2015: Judge for MSU Graduate Student Symposium
- 2015: Judge for MSU Undergraduate Student Symposium

External

- Reviewer: *AMS Journal of Atmospheric and Oceanic Technology*
Continental Shelf Research
Environmental Modelling & Software
Geology
Geophysical Research Letters
Geosciences
Journal of Coastal Research
Journal of Geophysical Research - Oceans
Journal of Marine Science and Engineering
Marine and Petroleum Geology
Nature Communications
- 2020: Convener of theme session at American Geophysical Union Fall Meeting
- 2020: Judge for Student Presentation Evaluation Program at Ocean Sciences Meeting
- 2019: Student Presentation Judge at CERF Meeting.
- 2019: Proposal Reviewer: National Science Foundation (NSF) Division of Ocean Sciences (OCE) Chemical Oceanography
- 2019: Proposal Reviewer: International Ocean Discovery Program (IODP)
- 2019: Proposal Reviewer: Schmidt Ocean Institute

- 2019: Proposal Reviewer: The National Academies of Sciences, Engineering, and Medicine, Gulf Research Program Early Career Research Fellowship
- 2019: Proposal Reviewer: National Oceanic and Atmospheric Administration Broad Agency Announcement
- 2019: *Ad hoc* Reviewer for National Science Foundation Division of Ocean Sciences Ocean Technology and Interdisciplinary Coordination Program
- 2019: Presented talk “Deep-Sea Exploration with Remotely Operated Vehicles” to middle and high school students competing in the MATE ROV competition at Dauphin Island Sea Lab, University of Southern Alabama.
- 2017-Present: Treasurer of the Southeast Section of the National Association of Geoscience Teachers
- 2014, 2015, 2017-2019: Judge for Outstanding Student Paper Award at American Geophysical Union Fall Meeting
- 2017, 2018: Presented lecture “Deep-Sea Exploration with Remotely Operated Vehicles and Autonomous Underwater Vehicles” to secondary school teachers in the Technology in Marine Science Workshop at Dauphin Island Sea Lab, University of Southern Alabama.
- 2014-2017: State representative (MS) to the Southeast Section of the National Association of Geoscience Teachers.
- 2015: Convener of theme session at American Geophysical Union Fall Meeting
- 2015: *Ad hoc* Reviewer for National Science Foundation Ocean Sciences Postdoctoral Fellowship Program
- 2013: Research Mentor for NOAA Hollings Scholar Program
- 2012: Reviewer for NOAA Hollings Scholar Program
- 2010: Convener of theme session at NE/SE regional meeting of the Geological Society of America

FIELD EXPERIENCE:

2018	Co-Science Lead	NOAA Ship <i>Okeanos Explorer</i>
2016	Co-Chief Scientist	R/V <i>Atlantis</i> / HOV Alvin / AUV Sentry
2015	Participant	R/V <i>Atlantis</i> / HOV Alvin / AUV Sentry
2013	Lead NOAA Scientist	NOAA Ship <i>Okeanos Explorer</i>
2013	Lead NOAA Scientist	NOAA Ship <i>Okeanos Explorer</i>
2012	Lead NOAA Scientist	NOAA Ship <i>Okeanos Explorer</i>
2012	Lead NOAA Scientist	NOAA Ship <i>Okeanos Explorer</i>
2012	Lead NOAA Scientist	NOAA Ship <i>Okeanos Explorer</i>
2012	Lead NOAA Scientist	NOAA Ship <i>Okeanos Explorer</i>
2012	Lead NOAA Scientist	NOAA Ship <i>Okeanos Explorer</i>
2011	NOAA Scientist	NOAA Ship <i>Okeanos Explorer</i>

2010	Participant / ROV Nav.	<i>E/V Nautilus</i>
2010	Participant	<i>R/V Waiho</i>
2010	Participant	<i>R/V Hugh R. Sharp</i>
2010	Participant	<i>R/V Hugh R. Sharp</i>
2009	Participant	<i>R/ V Tioga</i>
2009	Participant	<i>R/V Bay Commitment</i>
2007	Acting Chief Scientist	<i>R/V Hugh R. Sharp</i>
2007	Participant	<i>R/V Hugh R. Sharp</i>
2007	Participant	<i>R/V Alliance</i>
2006	Participant	<i>R/V Hugh R. Sharp</i>
2005	Participant	<i>R/V Cape Henlopen</i>
2004	Participant	<i>R/V Cape Henlopen</i>
2003	Participant	<i>R/V Cape Henlopen</i>

PROFESSIONAL AFFILIATIONS:

- Geological Society of America (2002)
- American Geophysical Union (2004)
- National Association of Geoscience Teachers (2014)
- American Association for the Advancement of Science (2016)

RESEARCH PRESS COVERAGE:

BBC News, CBS News, Earth Magazine, National Geographic, National Public Radio, Nature News, NBC News, New York Times, PBS-NOVA, The Weather Channel, Scientific American, Smithsonian Magazine, Washington Post

STUDENTS MENTORED:

Student	Affiliation	Current Position
Graduate Advisor		
Danielle Merritt	MSU M.S. (2016)	BioPharma Technician: Aegis Sciences Corporation
Asa Mullenex	MSU M.S. (2016)	Geologist: Diversified Well Logging, LLC
Caitlin Ruby	MSU M.S. (2017)	Geospatial Data Manager: NOAA Cooperative Institute for Research in Environmental Sciences (CIRES)
Brendan Lomago	MSU M.S. (2018)	Geologist: Terra Guidance, LLC
Daniel Adcock	MSU M.S. (2019)	Interdisciplinary Physical Scientist/Oceanographer:

		US Naval Oceanographic Office
Joseph French	MSU M.S. (2020)	Ph.D. Student: Louisiana State University Department of Oceanography & Coastal Sciences
Taylor Lee	MSU Ph.D. (2021)	<i>Current Student</i> and Geologist: U.S. Naval Research Laboratory
Garrett Mitchell	MSU M.S. (2021)	<i>Current Student</i>
Jake Freeman	MSU M.S. (2022)	<i>Current Student</i>
Zachary Peoples	MSU M.S. (2022)	<i>Current Student</i>
Rebecca Gilpin	MSU M.S. (2022)	<i>Current Student Co-Advised with J. Cebrian.</i>
Mitchell Brown	MSU M.S. (2023)	<i>Current Student</i> and Civil Engineering Technician IV: US Army Corps of Engineers - Engineer Research and Development Center
Megan Cromwell	MSU M.S. (2023)	<i>Current Student</i> and Oceanographer: NOAA National Centers for Environmental Information
Craig Millard	MSU Ph.D. (2023)	<i>Current Student</i>
Undergraduate Research Mentor		
Mali'o Kodis	NOAA Hollings Scholar Brown University B.S. (2014)	M.S. Student in Coastal Science and Policy: University of California, Santa Cruz
Maleen Kidiwela	MSU B.S. (2019)	Ph.D. Student in Marine Geophysics: University of Washington

Jake Freeman	MSU B.S. (2020)	M.S. Student in Department of Geosciences at Mississippi State University
Gabriel Hernandez	MSU B.S. (2021)	<i>Current Student</i>

Graduate Committee Service (Geology unless otherwise noted)

Michael Brooke	MSU M.S. (2014)	
Seth Martin	MSU M.S. (2014)	
Courtney Killian	MSU M.S. (2015)	
Brandon Crabtree	MSU M.S. (2016)	
Jonney Mitchell	MSU M.S. (2016)	
Alexandra Novak	MSU M.S. (2016)	
Natalie Samai	MSU M.S. (2016)	
Jeremy Weremeichik	MSU Ph.D. (2016)	
Tyler Berry	MSU M.S. (2017)	
Devon Flickinger	MSU M.S. (2017)	(Geospatial Science)
Patrick Jordan	MSU M.S. (2017)	
Maurice Testa	MSU Ph.D. (2017)	
Claire Babineaux	MSU Ph.D. (2018)	
Catie Dillion	MSU M.S. (2018)	(Agricultural and Biological Eng.)
Marvin Kunath	MSU M.S. (2018)	
Christopher Kyler	MSU M.S. (2018)	
Wesley Burger	MSU M.S. (2020)	(Wildlife, Fisheries, and Aquaculture)
Scott Dykes	MSU Ph.D. (2021)	
Lindsay Mullins	MSU M.S. (2021)	(Geospatial Science)
Rayford Parnell	MSU M.S. (2021)	
Nigel Temple	MSU Ph.D. (2021)	(Wildlife, Fisheries, and Aquaculture)
Keith Tishler	MSU Ph.D. (2021)	
Alyssa Rodolfich	MSU M.S. (2021)	
Rebecca Gilpin	MSU M.S. (2022)	
Catie Dillion	MSU Ph.D. (2022)	(Agricultural and Biological Eng.)
Devon Flickinger	MSU Ph.D. (2022)	(Geospatial Science)
Raul Osorio Morillo	MSU Ph.D. (2022)	(Agricultural and Biological Eng.)
Timothy Palmer	MSU Ph.D. (2022)	
