

# John M. Swartz

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## EDUCATION

### The University of Texas at Austin

Dec. 2019 **Doctor of Philosophy (PhD) in Geological Sciences**  
Dissertation: *Channel processes and products in subaerial environments across the Gulf of Mexico*  
Advisors: David Mohrig and Sean Gulick

Aug. 2014 **Master of Science (MS) in Geological Sciences**  
Thesis: *Seismic and morphologic analysis of the Gulf of Alaska Yakutat Margin*  
Advisor: Sean Gulick

### University of Pittsburgh

Aug. 2012 **Bachelor of Science (BS) in Geology**  
Minor in Chemistry, Certificate in GIS, Graduate honors

## APPOINTMENTS AND PROFESSIONAL EXPERIENCE

Jan. 2020-Present **Postdoctoral Fellow**  
Department of Civil, Architectural, and Environmental Engineering, The University of Texas at Austin

Jan. 2020-Present **Postdoctoral Fellow**  
Department of Geosciences, Boise State University

Jan. 2020-Present **Visiting Scholar**  
Institute of Arctic and Alpine Research, University of Colorado

Aug. 2015- Dec. 2019 **Graduate Research Fellow**  
Department of Geological Sciences and Institute for Geophysics, Jackson School of Geosciences, The University of Texas at Austin

May 2018 – Aug. 2018 **Geology Intern**  
Gulf of Mexico Regional Exploration Team, Equinor US

Aug. 2014- Aug. 2015 **Sedimentologist**  
Lower 48 Reservoir Characterization, ConocoPhillips Co.

May. 2013- Sep. 2013	<b>Geoscience Intern</b> Lower 48 Reservoir Characterization, ConocoPhillips Co.
Aug. 2012- Aug. 2014	<b>Graduate Research Fellow</b> Department of Geological Sciences and Institute for Geophysics, Jackson School of Geosciences, The University of Texas at Austin
May. 2012- Aug. 2012	<b>Geologist, GS-05</b> NAGT-USGS internship, National Research Program in Boulder, CO, United States Geological Survey
May. 2011- May 2012	<b>Guest Student, Research Assistant</b> Department of Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution
May. 2010- Sept. 2010	<b>Summer Fellow</b> Department of Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution

## HONORS AND AWARDS

2019	CU Boulder CSDMS Best Presentation
2017	University of Texas Presidential Fellowship
2015	University of Texas Graduate Recruitment Fellowship
2014	Jackson School of Geosciences Banks Memorial Fellowship
2012	NAGT-USGS Cooperative Field Training Internship
2010	Woods Hole Oceanographic Institution Summer Fellowship

## PEER-REVIEWED PUBLICATIONS

### *In-review:*

- [9] **Swartz, JM**, Cardenas, B, Mohrig, DC, and Passalacqua, P., From Distributary to Tributary: Formation of Channel Networks Set by Depositional Processes, *Nature Geoscience*. Under Review.
- [8] Cardenas, B, **Swartz, JM**, Mohrig, DC, and Prokocki, E., Setting Up the Preservation of Fluvial Channel Belts, *Nature Geoscience*. Under Review.
- [7] **Swartz, JM.**, Mohrig, DC., Gulick, SPS., and Stockli, D. Connecting properties of the Rio Grande Shelf-Edge Delta to Construction of a Submarine Ramp and Continental Margin Sedimentation. *In-prep, preprint available upon request*
- [6] **Swartz, JM.**, Goff, JA., Gulick, SPS., Standring, P., and Lowery, C. Coastal River Response to Transgression: A New Look at the Trinity incised Valley Using Multi-Resolution Seismic Imaging. *In-prep, preprint available upon request*

**Published:**

- [5] **Swartz, JM**, Goudge, TA, and Mohrig, DC., Quantifying Coastal Fluvial Morphodynamics over the Last 100 Years on the Lower Rio Grande, USA and Mexico, *Journal of Geophysical Research- Earth Surface*. 2020.
- [4] Goff, JA, **Swartz, JM**, Gulick, SPS, Dawson, CN, and Alegria-Arzaburu, R., An outflow event on the left side of Hurricane Harvey: Erosion of barrier sand and seaward transport through Aransas Pass, Texas, *Geomorphology*. 2019.
- [3] Kohut, JT., Kustka, AB., Hiscock, MR, Lam, PJ, Measures, C, Milligan, A, White, A, Carvalho, F, Hatta, M, Jones, BM, Ohnemus, DC, and **Swartz, JM.**, Mesoscale variability of the summer bloom over the northern Ross Sea shelf: A tale of two bank, *Journal of Marine Systems*. 2016.
- [2] Gulick, SPS, Jaeger, JM, Mix, AC, Expedition 341 Science Team... and **Swartz, JM.**, Mid Pleistocene climate transition drives net mass loss from rapidly uplifting St. Elias Mountains, Alaska, *Proceedings of the National Academy of Sciences*. 2015.
- [1] **Swartz, JM**, Gulick, SPS, and Goff, JA., Gulf of Alaska continental slope morphology: Evidence for recent trough mouth fan formation, *Geochemistry, Geophysics, Geosystems*. 2015.

**SCIENTIFIC PRESENTATIONS WITH ABSTRACTS**

- [27] **Swartz, JM.**, Goff, JA., Gulick, SPS., Standring, P., and Lowery, C. Coastal River Morphodynamic Response to Sea Level Rise Recorded in Offshore Stratigraphy: A New Look at the Trinity Incised Valley. AGU 2019
- [26] Standring, P., Lowery, C., Gulick, S.P.S., **Swartz, J.M.**, and Goff, J.A. Holocene Sea Level Rise and Paleo-Environmental Change Within Trinity River Offshore Galveston Bay, Gulf of Mexico. GSA 2019
- [25] Cardenas, B., **Swartz, J.M.**, and Mohrig, D., The Length of Fluvial Sinuous Ridges on Mars. Lunar and Planetary Science Conference 2019
- [24] **Swartz, JM**, Mohrig, DC, and Goudge, TA., Coastal River Dynamics and Morphology on the Rio Grande Delta: Implications for Fluvio-Deltaic Stratigraphy and Channel Belt Architecture. IAS Rome 2019
- [23] **Swartz, J.M.**, Mohrig, D.C., Passalacqua, P. From Distributary to Tributary: Formation and Morphometry of Coastal Stream Networks Governed by Depositional Processes. CSDMS 2019
- [22] **Swartz, J.M.**, Mohrig, D.C., Passalacqua, P., Goff, J.A., and Gulick, S.P.S. From Distributary to Tributary: Coastal Drainage Network Position and Morphometry Are Set by Depositional Processes. AGU 2018
- [21] Nix, M.B., Hassenruck-Gudipati, H.J., **Swartz, J.M.**, Mason, J., Sylvester, Z., and Mohrig, D.C. Controls on the sedimentation and morphology of an oxbow lake along the Trinity River, Texas, USA. AGU 2018

- [20] **Swartz, J.M.**, Mohrig, D.C., Gulick, S.P.S., and Goudge, T.A. Tracking Channel Behavior of the Rio Grande River: Backstepping Avulsions and Coastal Bend Cutoffs. AGU 2017
- [19] Goff, J.A., **Swartz, J.M.**, and Gulick, S.P.S. An Outflow Event on the Left Side of Harvey: Erosion of Barrier Sand and Seaward Transport Through Aransas Pass. AGU 2017
- [18] Daniller-Varghese, M.S., Smith, E., Mohrig, D.C., Goudge, T.A., Hassenruck-Gudipati, H.J., Koo, W.M., Mason, J., **Swartz, J.M.**, and Kim, J. Influence of Waves and Tides on Upper Slope Turbidity Currents and their Deposits: An Outcrop and Laboratory Study. AGU Fall 2017
- [17] Wilson, K., **Swartz, J.M.**, and Mohrig, D.C., Back-barrier Topographic Control on the Morphology of Hurricane Harvey Washover Deposits. AGU Fall 2017
- [16] Speed, C.M., **Swartz, J.M.**, Gulick, S.P.S., and Goff, J.A., New Insights into Valley Formation and Preservation: Geophysical Imaging of the Offshore Trinity River Paleovalley. AGU Fall 2017
- [15] Mohrig, D. and **Swartz, JM.** Rio Grande Shelf-Edge Delta and Submarine Slope System, Offshore Texas, USA: Tarantian-Early Holocene Sedimentation Overwhelms Tectonics. GSA 2017
- [14] **Swartz, J.M.**, Mohrig, D.C., Gulick, S.P.S., Stockli, D.F., Daniller-Varghese, M.S. and Fernandez, R., Rapid shut-off and burial of slope channel-levee systems: new imaging and analysis of the Rio Grande submarine fan. AGU 2016
- [13] Speed, C., Gulick, S.P.S., Goff, J., **Swartz, J.M.** and Fernandez, R., Characterizing Late Quaternary Paleochannel System Evolution on the East Texas Continental Shelf. AGU 2016
- [12] Morey, S., **Swartz, J.M.** and Gulick, S.P.S., Sediment transport processes in the Gulf of Alaska: a morphological analysis of channel and fan sedimentation. AGU 2016
- [11] Aylward, D., **Swartz, J. M.**, Goudge, T. A., & Mohrig, D. C. Alongshore Distribution of Washover Deposits: Hurricane Ike and the Texas Coast, 2008. AGU 2016
- [10] **Swartz, JM**, Gulick, SPS, Goff, JA, Sedimentary Records of Shelf Edge Glaciation: A Young Trough-Mouth Fan on the Gulf of Alaska Yakutat Margin, AGU 2015
- [9] Morey, SM, Gulick, SPS, Walton, MAL, **Swartz, JM**, Worthington, LL, Reece, R, Somchat, K, Wagner, PF, Jaeger, JM, Mix, AC, The Evolution of the Surveyor Fan and Channel System, Gulf of Alaska based on Core-Log-Seismic Integration at IODP Site U1417, AGU 2015
- [8] Gulick, SPS, Montelli, A, **Swartz, JM**, Morey, S, Jaeger, JM, Mix, AC, Reece, R, Somchat, K, Wagner, PF, Worthington, LL, Margin Architecture and Sediment Flux as Controls on Submarine Fan Development: Tectonic-Climate Interactions in the Gulf of Alaska, AGU Fall 2015

- [7] **Swartz, JM**, Cleveland, V, Gulick, SPS, Goff, JA, Holocene Formation of Heald Sand Bank on the East Texas Inner Continental Shelf, AGU 2015
- [6] **Swartz, JM**, Gulick, SPS, Goff, JA, Quantitative morphologic analysis of the Gulf of Alaska Yakutat margin: Evidence for recent trough mouth fan growth, AGU 2014
- [5] Gulick, SPS, Jaeger, JM, Mix, AC, Reece, RS, **Swartz, JM**, Expedition 341 Science Party, Development of a glacially dominated shelf-slope fan system in tectonically active southeast Alaska: Results of IODP Expedition 341 core-log-seismic integrated studies, EGU 2014
- [4] **Swartz, JM**, Gulick, SPS, Walton, M, Preliminary analysis of temperate glacial shelf-crossing troughs and associated trough-mouth fans in southeast Alaska, AGU 2013
- [3] Lam, PJ, Ohnemus, DC, **Swartz, JM**, Auro, ME, Kohut, J, Hatta, M, Sediments as a source of iron in the Ross Sea: Sediment characteristics and particulate iron, Ocean Sciences 2013
- [2] Butman, DE, Stets, EG, Stackpoole, SM, McDonald, C, Wilson, S, **Swartz, JM**, Striegl, RG, Stream and river CO<sub>2</sub> and CH<sub>4</sub> fluxes from the Southeastern US, AGU 2012
- [1] **Swartz, JM**, Robinson, LF, Controls on Uranium Series Isotope Variability within Chilean Surface Waters, AGU 2011

## INVITED TALKS AND SEMINARS

- 2019 Texas Coastal Sediment Workshop, Texas General Land Office and US Army Corps of Engineers
- 2019 Sediment Resource Needs, US Army Corps of Engineers
- 2018 Gulf of Mexico Offshore Sand Management Working Group, Bureau of Ocean Energy Management
- 2018 Drivers of Fluvial Stratigraphy, RioMAR industry consortium
- 2017 Gulf of Mexico Offshore Sand Management Working Group, Bureau of Ocean Energy Management
- 2017 Western Gulf of Mexico Seismic Stratigraphy, RioMAR industry consortium hosted by Shell Exploration
- 2012 Geophysical Characterization of Offshore Fluvial Stratigraphy, Bureau of Ocean Energy Management

## TEACHING EXPERIENCE

### Department of Geological Sciences, The University of Texas at Austin

- 2017 Guest Instructor and Field Teaching Assistant, *Marine Geology and Geophysics Field Course*
- 2016 Graduate Teaching Assistant, *Sedimentology*
- 2012-2013 Graduate Teaching Assistant, *Introduction to Geology*

## **ConocoPhillips Company**

2015 Instructor, *Engineering Academy “Cores + Pores” short course*  
2015 Instructor, *Eagle Ford Depositional Model workshop*

## **OUTREACH, SCIENTIFIC AND PROFESSIONAL SERVICE**

2020 Clinic Leader, CSDMS 2020  
2018-Present Peer reviewer for *Geosphere, Journal of Coastal Research, Earth Surface Processes and Landforms*  
2015 Reviewer and judge for American Geoscience Institute graduate scholarships  
2015-2019 Event coordinator for Science Olympiad  
2015-2019 Mentor for Students Raising Students  
2015 Invited speaker for Earthlabs: Climate Detectives Summer Workshop for high-school teachers

## **FIELD EXPERIENCE**

### *Offshore and small boat:*

2017 Trinity River, TX; Gulf of Mexico (R/V Manta)  
2015 Gulf of Mexico (R/V Manta)  
2013 Gulf of Mexico (R/V Manta)  
2012 Red Sea, Saudi Arabia and Yemen (R/V AEGAE0)  
2011 Antarctica, Southern Ocean (R/V Nathaniel Palmer)  
2009 Antarctica, Southern Ocean (R/V Nathaniel Palmer)

### *Field surveys:*

2017 Rio Grande Delta, TX; Texas Gulf Coast  
2016 Coos Bay, OR; Trinity River, TX; Texas Gulf Coast  
2015 Trinity River, TX  
2013 Guadalupe Mountains, NM and TX  
2013 Moab, UT; Caicos Islands  
2012 Alaskan North Slope and White Mountains; Southeast USA

## **PROFESSIONAL ASSOCIATIONS**

American Geophysical Union, Earth and Planetary Surface Processes  
Geological Society of America  
International Association of Sedimentologists  
American Association of Petroleum Geologists