

# **School of Geosciences**

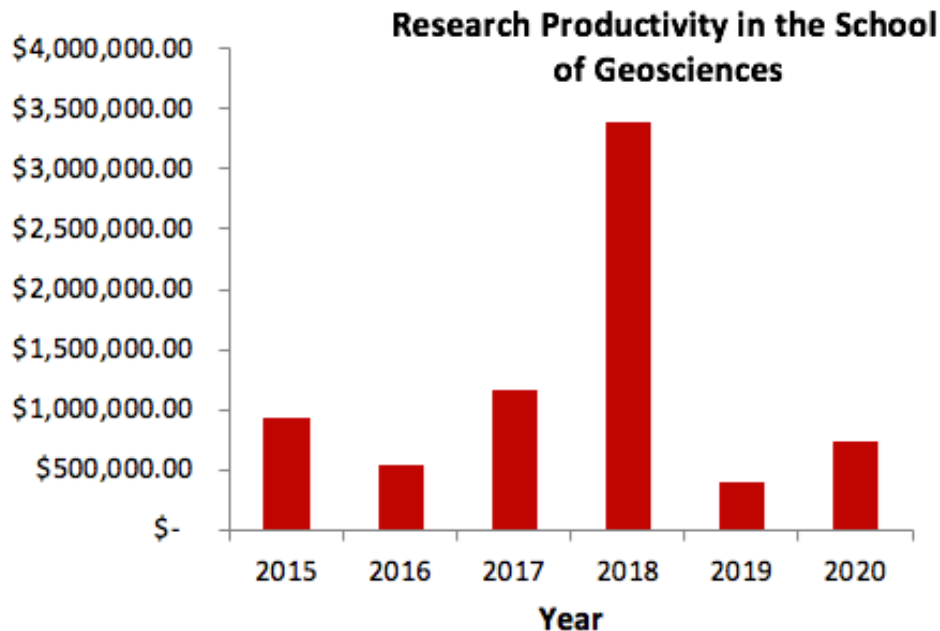
## Summary

The School of Geosciences, formed in the fall semester of 2012, brings together the programs of Geology and Environmental Sciences (<http://geos.louisiana.edu/>). Our mission is to provide maximum value to our students, our community, and society through education and research focused on Energy and the Environment. The School of Geosciences consists of 13 (Fall 2020) full-time tenure/tenure-track faculty (8 in Geology, 5 in Environmental Sciences), 2 instructors, 1 resource facilitator, 128 undergraduate majors, and 43 graduate students. We offer separate undergraduate and MS-degree programs in Geology and Environmental Science, and an interdisciplinary Ph.D. in Earth and Energy Sciences. Enrollment data from the Ph.D. program are not included in this report.

Here we summarize the scholarly productivity of the faculty in the School of Geosciences from 2015 to 2020.

### **Research Dollars**

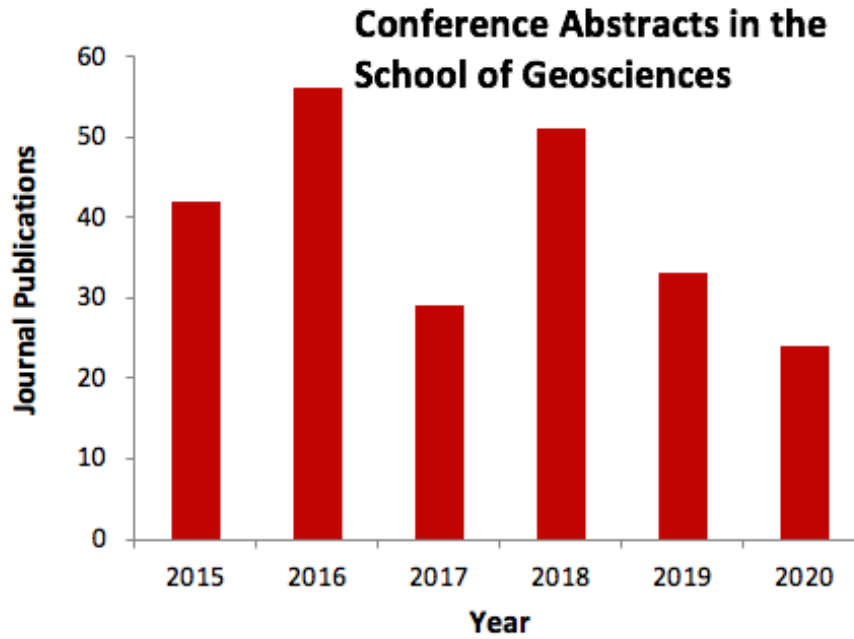
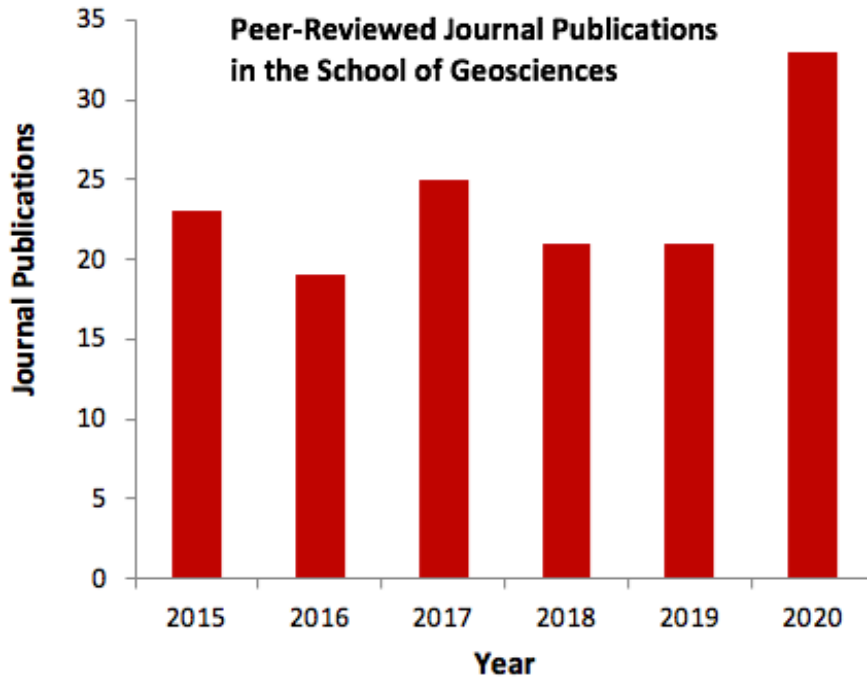
Faculty in the School of Geosciences have produced \$1.2 Million in research dollars per year (average from 2015 to 2020), which is about \$92,000.00 per faculty member per year.



### **Peer-Reviewed Journal Publications and Abstracts**

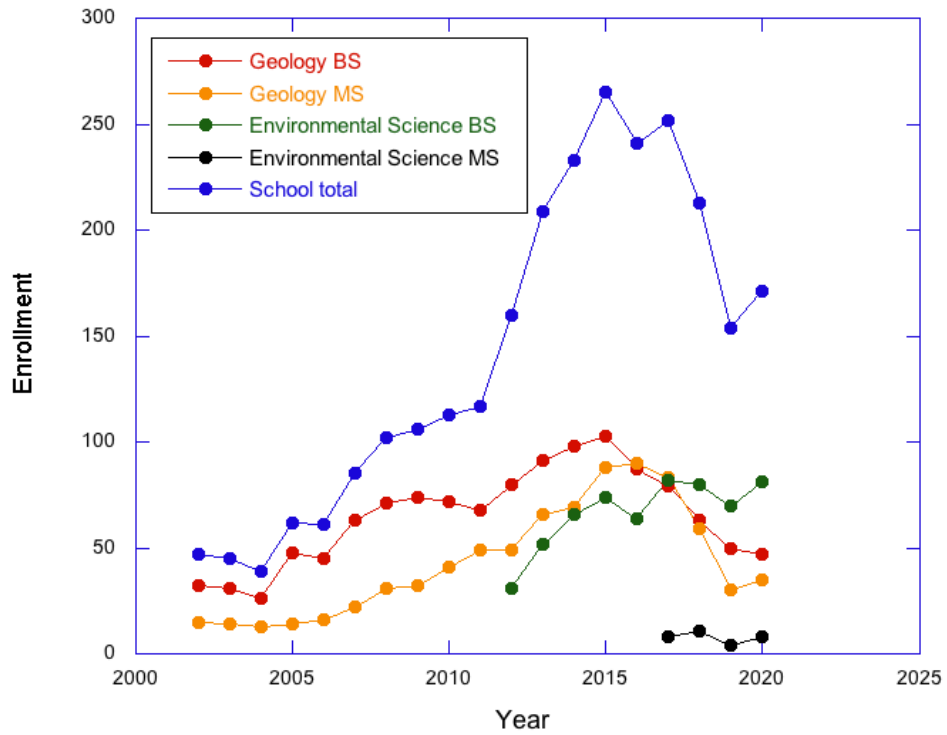
Since 2015, faculty in the School of Geosciences have produced on average 24 peer-reviewed manuscripts per year, which is ~1.8 per year per faculty member. In addition, since 2015, the

faculty in the School of Geosciences have produced 39 conference abstracts/proceedings per year or 3 per faculty member annually.



## Enrollments

In 2020 the School had a total of 171 students, including 35 Geology graduate students, 47 Geology undergraduate students, 81 Environmental Science undergraduate students, and 8 Environmental Science graduate students. Note that the Environmental Science undergraduate program began in 2012, and the Environmental Science graduate Program in the Fall 2017. Enrollment data of the interdisciplinary Ph.D. program are not included in this report.



## Publications, Presentations, Editorships, and Talks

### Peer-Reviewed Journal Publications (Published and Accepted/In-Press Only)

2020

1. **Poudel, D.D., Duex T.W., & Poudel R.** (2020). Drinking water security in the mid-hill region of Nepal, *ASEJ. Scientific Journal of Bielsko-Biala School of Finance and Law*, 24(1), 44-48. doi:10.5604/01.3001.0014.1351
2. Dekkers, M.J., **Ferré, E.C.**, Chou, Y.-M., Yang, T., Chen, J., Yeh, E.-C. & Tanikawa, W. (2020). New insights from the magnetic properties of fault rocks. *Eos*, 101. doi.org/10.1029/2020EO151611
3. Ejembi, J.I., **Ferré, E.C.**, Satolli, S., & Friedman, S.A. (2020). Fluid-flow in Jurassic sandstones of the Paradox Basin and implications for porous reservoirs. *Frontiers in Earth Sciences*. doi:10.3389/feart.2020.601415
4. Yang, T., Chou, Y.-M., **Ferré, E.C.**, Dekkers, M.J., Chen, J., Yeh, E.-C., Tanikawa, W. & Mishima, T. (2020). Faulting processes unveiled by magnetic properties of fault rocks. *Reviews of Geophysics*. doi: 10.1029/2019RG000690
5. **Ferré, E.C.**, Kuppenko, I., Martín-Hernández, F., Ravat, D., & Sanchez-Valle, C. (2020). Magnetic Sources in the Earth's Mantle. *Nature Reviews Earth and Environment*. doi:10.1038/s43017-020-00107-x.
6. Knafelc, J., Filiberto, J., **Ferré, E.C.**, Conder, J.A., Costello, L., Crandall, J.R., Dyar, M.D., Friedman, S.A., Hummer, D.R., & Schwenzer, S.P. (2019). The effect of oxidation on the mineralogy and magnetic properties of olivine, *American Mineralogist*, doi.org/10.2138/am-2019-6829.
7. Idoko, C.M., Conder, J.A., **Ferré, E.C.**, & Filiberto, J. (2019). The potential contribution to long wavelength anomalies from the lithospheric mantle. *Physics of the Earth and Planetary Interiors*. doi:10.1016/j.pepi.2019.05.002
8. **Gottardi, R.**, McAleer, R., Casale, G., Borel, M., Iriondo, A. & Jepson, G., (2020). Exhumation of the Coyote Mountains Metamorphic Core Complex (Arizona): Implications for Orogenic Collapse of the Southern North American Cordillera. *Tectonics*, **39**(8), p.e2019TC006050. doi:10.1029/2019TC006050
9. O'Leary, M. & **Gottardi, R.** (2020). Relationship between growth faults, subsidence, and land loss: An example from Cameron Parish, Southwestern Louisiana, USA. *Journal of Coastal Research*, **36**(4), 812-827. doi:10.2112/JCOASTRES-D-19-00108.1
10. **Oppo D.**, De Siena L., Kemp D., (2020) - A record of seafloor methane seepage across the last 150 million years. *Scientific Reports* **10**, 2562, doi:10.1038/s41598-020-59431-3
11. Maselli, V., **Oppo, D.**, Moore, A.L., Gusman, A.R., Mtelela, C., Iacopini, D., Taviani, M., Mjema, E., Mulaya, E., Che, M., Tomioka, A.L., Mshiu, E., Ortiz, J.D., (2020). A 1000-yr-old tsunami in the Indian Ocean points to greater risk for East Africa. *Geology* **48**(8), 808–813, doi:10.1130/G47257.1

12. Russell, J.M., ..., **Oppo D.**, et al., (2020). ICDP workshop on the Lake Tanganyika Scientific Drilling Project: a late Miocene–present record of climate, rifting, and ecosystem evolution from the world’s oldest tropical lake. *Scientific Drilling* **27**, 53–60, doi:5194/sd-27-53-2020.
13. Romzaykina, O.N., Vasenev, V.I., **Paltseva, A.**, Kuzyakov, Y.V., Neaman, A. and Dovletyarova, E.A. (2020). Assessing and Mapping Urban Soils as Geochemical Barriers for Contamination by Heavy Metals and Metalloids in Moscow Megapolis. *J. Environ. Qual*, 1-16.
14. Vasenev V.I., Slukovskaya M.V., Cheng Z., **Paltseva A.**, et al. (2020). Anthropogenic Soils and Landscapes of European Russia: Summer School from Sea to Sea—A Didactic Prototype. *J. Environ. Qual*, 1-15.
15. Grigorita, G., Neaman, A., Brykova, R., Brykov, V., Morev, D., Ginocchio, R., **Paltseva, A.**, Vidal, K., Dovletyarova, E. (2020). Use of Zinc Carbonate Spiking to Obtain Phytotoxicity Thresholds Comparable to Those in Field-Collected Soils. *Environ. Toxicol. Chem.*
16. **Paltseva A.**, Neaman A. (2020). An Emerging Frontier: Metal(loid) Soil Pollution Threat under Global Climate Change. *Environ. Toxicol. Chem.*
17. **Paltseva A.**, Cheng Z., Egendorf S.P., Groffman P.M. (2020). Remediation of an Urban Garden with Elevated Levels of Soil Contamination. *Sci. Total Environ*, 137965.
18. Tarasova E., Drogobuzhskaya S., Tapia-Pizarro F., Morev D.V., Brykov V., Dovletyarova E.A, Slukovskaya M., Navarro-Villarreal C., **Paltseva, A.A.**, Neaman A. (2020). Vermiculite-Lizardite Industrial Wastes Promote Plant Growth in a Peat Soil Affected by a Cu/Ni Smelter: a Case Study at the Kola Peninsula, Russia. *J Plant Nutr Soil Sci*, 1-6.
19. **Poudel, D.D.**, Cazan, A.M., Oguma, A.Y., & Klerks, P.L. (2020). Monitoring fish, benthic invertebrates and physicochemical properties of surface water for evaluating nonpoint source pollution control in coastal agricultural watersheds, *Journal of Soil and Water Conservation*, 75(2):177-190. doi:10.2489/jswc.75.2.177
20. Lee, E., Wolfgring, E., Tejada, M., Harry, D., Wainman, C., SooChun, S., Schnetger, B., Brumsack, H., Maritati, A., Martinez, M., **Richter, C.**, Lij, Y., Riquier, L., MacLeod, K., Waller, T., Borissova, I., Petrizzoo, M., Huber, B., Kim, Y., IODP Expedition 369 Science Party. (2020). Early Cretaceous subsidence of the Naturaliste Plateau defined by a new record of volcanoclastic-rich sequence at IODP Site U1513. *Gondwana Research*, 82, 1-11.
21. Harry, D., Tejada, M., Lee, E., Wolfgring, E., Wainman, C., Brumsack, H.-J., Schnetger, B., Kimura, J., Riquier, L., Borissova, I., Hobbs, R., Jiang, T., Li, X., Maritati, A., Martinez, M., **Richter, C.**, Tagliaro, G., and White, L., (2020). Evolution of the Southwest Australian Rifted Continental Margin During Breakup of East Gondwana: Results From International Ocean Discovery Program Expedition 369. *Geochemistry Geophysics Geosystems*, **21**(12), 1-26, doi:10.1029/2020GC009144
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- Cretaceous stratigraphy and paleoceanographic evolution in the Great Australian Bight Basin based on results from IODP Site U1512. *Gondwana Research*, 83, 80-95.
23. Quan, T.M., Wu, T., and the Expedition 369 Scientists (incl., **Richter, C.**), (2020). Data report: isotopic records for carbonate and organic fractions from IODP Expedition 369, Hole U1515A. In Hobbs, R.W., Huber, B.T., Bogus, K.A., and the Expedition 369 Scientists, Australia Cretaceous Climate and Tectonics. *Proceedings of the International Ocean Discovery Program*, 369: College Station, TX (International Ocean Discovery Program). doi:10.14379/iodp.proc.369.201.2020
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## 2019

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marine Jurassic to earliest Cretaceous sediments in the pre-breakup section of the Mentelle Basin, southwestern Australia. *Australian Journal of Earth Sciences*. doi:10.1080/08120099.2019.1627581

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## 2018

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## **Conference Proceedings, Abstracts**

### **2020**

1. Cukur, D., Kim, G.-Y., Buchs, D., **Ferré, E.C.**, Hong, S.H., and Horozal, S. (2020). Deconvolving Tectonic and Climatic Signals in Sediments of IODP Site U1501 from the Northern Margin of the South China Sea. Asia Oceania Geosciences Societies, 17th Meeting, Hongcheon, S. Korea. OS19-A005.

2. Nováková, M., Gallay, M., Šupinský, J., **Ferré, E.C.**, and Sorriaux, P. (2020). Improving the use of laser scanning intensity data in complex 3D mapping of the cave environment: Case study of the Gouffre Georges Cave, France. European Geosciences Union, General Assembly, Vienna. EGU2020-18742.
3. **Ferré, E.C.**, Parlak, O., Choisser, A., Hosseinzadehsabeti, E., Rizaoglu, T. (2020). IODP beyond 2023, ophiolites and the thermal boundary layer in the oceanic crust. 73rd Geological Congress of Turkey, Ankara, Turkey. Invited Contribution.
4. Hosseinzadehsabeti, E., **Ferré, E.C.**, Geissman, J.W. (2020). Does seismic rupture in the upper mantle occur in dry, moist or wet conditions? 73rd Geological Congress of Turkey, Ankara, Turkey.
5. Busby, C.J., **Gottardi, R.** and Fitz-Diaz, E., (2020). October. T16. Assembling Laurentia: Growth of the Western Continental Margin by Subduction, with or without Terrane Accretion, 190-70 Ma II. In GSA 2020 Connects Online. GSA.
6. Morris, K., **Gottardi, R.**, Casale, G., (2020). Phyllosilicates Distribution, Spatial Arrangement And Interconnectivity: Implications For Rheological Weakening And Strain Localization In Detachment Shear Zones (Raft River Mountains, Ut). Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020, doi:10.1130/abs/2020AM-356487
7. Hughes, B., **Gottardi, R.**, Casale, G., (2020). Orientation, Composition, And Entrapment Conditions Of Fluid Inclusions In The Raft River Detachment Shear Zone. Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020, doi:10.1130/abs/2020AM-356473
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10. Roy S., Hovland M., Jensen J., **Oppo D.**, (2020). Faunal characteristics of the Nyegga/Storegga cold-seep, NE-Atlantic. AGU Fall Meeting, Dec 7 – 11, San Francisco (Virtual due to Covid-19).
11. Ajala S.\*, **Gottardi R.**, Onwumelu C., **Oppo D.** (2020). Depositional environment and sequence stratigraphy of the Lower Tuscaloosa sandstone in Washington Parish, Louisiana. GSA 2929 Connects Online. (Virtual do to Covid-19)
12. **Oppo D.**§, Hurst A. (2020). Seepage Rate of Hydrothermally Generated Petroleum in East African Rift Lakes: an Example from Lake Tanganyika. AAPG ACE 2020, Sept 29-Oct 1, Houston, USA. (Virtual do to Covid-19)
13. **Oppo D.**, Hovland M. (2020). Role of Deep-Sourced Fluids on the Initiation and Growth of Isolated Carbonate Build-Ups. AAPG ACE 2020, Sept 29-Oct 1, Houston, USA. (Virtual do to Covid-19)
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17. Xuan, C., Nichols, M., Stoner, J., **Richter, C.**, & Acton, G., (2020). Global and regional geomagnetic variabilities recorded in late Quaternary sediments from the west Iberian Margin. EGU General Assembly Conference Abstracts, 11984
18. Nichols, M., Xuan, C., Hodell, D., **Richter, C.**, Acton, G., & Wilson, P., (2020). Environmental and rock magnetic investigations into provenance and processes of west Iberian margin sediments. EGU General Assembly Conference Abstracts, 18890
19. Almeida, B, **Schubert, BA**, & Lukens, WE. (2020). "Using high-resolution intra-ring oxygen isotope measurements across fossil wood to reconstruct seasonal temperature in northeastern Siberia during the late Miocene," American Geophysical Union Fall Meeting.
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22. Charles, A and **Schubert, BA**. (2020). "High-resolution intra-ring oxygen isotope measurements across fossil wood indicate above-freezing wintertime temperatures in the Arctic during the Eocene," Goldschmidt.
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24. Lukens, WE, Vornlocher, JR, **Schubert, BA**, Quan, C. (2020). "Dissecting the East Asian Monsoon: Seasonal Rainfall Patterns from late Oligocene Fossil Wood," GSA Southeastern-Northeastern Joint Section Meeting.

## 2019

25. **Poudel, DD, Duex, T., Borrok, D., & Poudel, R.** (2019). Hydrogeology and land-use effects on spring water properties in the mid-hill region of Nepal, ASA-CSSA-SSSA Meeting, Nov. 10-13, 2019, San Antonio, TX. (Poster).
26. Wu, H., Nie, Y., Shi, M., **Ferré, E.C.**, and Satolli, S. (2019). Preliminary magnetostratigraphy results for Sites 1501 and 1505, IODP Expedition 368 in South China Sea. South China Sea IODP Expeditions 367, 368 and 368X Science (2nd) Postcruise Meeting. Xi'an, China.
27. Satolli, S., Wu, H. and **Ferré, E.C.** (2019). Preliminary paleomagnetic results for sites U1502A and U1504A from IODP Exp 368 in the South China Sea. South China Sea IODP Expeditions 367, 368 and 368X Science (2nd) Postcruise Meeting. Xi'an, China.
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31. **Ferré, E.C.**, Biedermann, A.R., and Teyssier, C. (2019). The long alteration history of peridotites in the New Caledonia ophiolite: from ocean ridge to obduction and beyond. Eos Trans. AGU, Fall Meeting Supplement, GP41A-758.
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  121. **Kinsland, G.L.** (2017). *Geophysical data define boundaries and sub-regions of the Northern Gulf of Mexico Basin: Structural Histories and causes are hypothesized*, T21B-0564 (Poster Presentation). American Geophysical Union Fall Meeting. New Orleans, LA, December, 2017.
  122. **Poudel, D.D.** (2017). Challenges of improving surface water quality in Bayou Chene, Louisiana. In: *Geological Society of America Abstracts with Programs*, **49**(1), 12-11. doi:10.1130/abs/2017SC-289132
  123. **Richter, C.**, Jensen, S. \*, Acton, G., & Evans, H., (2017). *Geomagnetic Excursions and High-Latitude Paleomagnetic Records of Glaciomarine Sediments from the Western Greenland Margin (Baffin Bay)*, GP33B-0977. American Geophysical Union Fall Meeting. New Orleans, LA, December, 2017.
  124. Acton, G., **Richter, C.**, Xuan, C., & Verosub, K., (2017). Paleoenvironmental Change Recorded in the Magnetic Properties of Marine Sediments Cored Off the Margin of Spain and Portugal During IODP Expedition 339. In: *Geological Society of America Abstracts with Programs*, **49**(6), 218-6. doi:10.1130/abs/2017AM-303980

125. Eze, P.\* & **Schubert, B.A.** (2017). *A comparison of the carbon isotope composition of whole wood and cellulose within modern and fossil tree rings*. Louisiana Honors Undergraduate Research Conference, Lafayette, LA.
126. **Schubert, B.A.** & Jahren, A.H. (2017). *Seasonal climate profiles of an ice-free Arctic based on intra-ring analyses of  $\delta^{18}O$  value in fossil wood*. American Geophysical Union Fall Meeting. New Orleans, LA, December, 2017.
127. Jahren, A.H. & **Schubert, B.A.** (2017). *The interrelationship of  $pCO_2$ , soil moisture content, and biomass fertilization expressed in the  $\delta^{13}C$  value of  $C_3$  plant tissue*. American Geophysical Union Fall Meeting. New Orleans, LA, December, 2017.
128. Telus, R.G.\* & **Schubert, B.A.** (2017). Identification of extreme rainfall events using high-resolution carbon isotope measurements across tree-rings. In: *Geological Society of America Abstracts with Programs*, **49**(6), 60-3. doi:10.1130/abs/2017AM-306100
129. Cui, Y. & **Schubert, B.A.** (2017). Does  $pCO_2$  affect carbon isotope discrimination on evolutionary timescales? In: *Goldschmidt Abstracts*, **2017**, 800.
130. Evans, K.\*, **Schubert, B.A.**, Albert, J. (2017). *Developmental bias facilitates trophic diversification in Amazonian electric fishes*. Joint Meeting of Ichthyologists and Herpetologists. Austin, TX, July 2017.
131. Moore, C.S.\* & **Schubert, B.A.** (2017). Seasonal temperatures in the Arctic during the late Pleistocene determined using high-resolution oxygen isotope measurements across fossil wood. In: *Geological Society of America Abstracts with Programs*, **49**(1), 2-8. doi:10.1130/abs/2017SC-289064
132. **Wang, X.** & Huang, G. (2017). *High-Resolution Climate Date Visualization through GIS- and Web-based Data Portals* (Oral Presentation). American Geophysical Union Fall Meeting. New Orleans, LA, December, 2017.
133. Johnston, A. \*, **Zhang, R.**, **Gottardi, R.**, Dawers, N. (2017). *Investigating the Relationship Between Structural Geology and Wetland Loss Near Golden Meadow, Louisiana By Utilizing 3D Seismic Reection and Well Log Data*, T21B. American Geophysical Union Fall Meeting. New Orleans, LA, December, 2017.
134. **Zhang, R.** \*, Borgia, A., Daley, T.M., Oldenburg, C.M., Lee, K J., Jung, Y., Doughty, C., Altundas, B., Chugunov, N., & Ramakrishnan, T. S. (2017). *Modeling of time-lapse multi-scale seismic monitoring of  $CO_2$  injected into a fault zone to enhance the characterization of permeability in enhanced geothermal systems*, H41O-02. American Geophysical Union Fall Meeting. New Orleans, LA, December, 2017.
135. Bujard, J.P. \* & **Zhang, R.** (2017). Geophysical analysis of the Miocene-Pliocene Mangaa formation for better exploration within the Parihaka 3D survey; Taranaki basin, New Zealand. In: *SEG Technical Program Expanded Abstracts 2017*, 1993-1997. doi:10.1190/segam2017-17143401.1
136. Bujard, J.P. \* & **Zhang, R.** (2017). Geophysical analysis of the Miocene-Pliocene Mangaa formation for better exploration within the Parihaka 3D survey; Taranaki basin, New Zealand. In: *International Geophysical Conference. Qingdao, China, April 2017*, 63-66. doi:10.1190/IGC2017-017

## 2016

137. Barato, F., Broussard III, W.P., **Borrok, D.M.**, Conlin, D. (2016). *Geospatial framework for cataloguing and analyzing groundwater withdraw information*. 10<sup>th</sup> Annual Louisiana Groundwater, Surface Water & Water Resources Symposium. Baton Rouge, LA, April 2016.
138. Eldardiry, H., Habib, E., **Borrok, D.M.** (2016). *Assessment of Water Stresses in Southwest Louisiana: Effects of Uncertainties in Water Resources Availability*. 10<sup>th</sup> Annual Louisiana Groundwater, Surface Water & Water Resources Symposium. Baton Rouge, LA, April 2016.
139. **Borrok, D.M.** (2016). *A surface water management framework to counterbalance groundwater withdrawals in wetter regions of the U.S.* National Science Foundation WSC PI Meeting. Arlington, VA., March 9-11, 2016.
140. Shane, T., **Borrok, D.M.**, Lock, B.E. (2016). *Geochemical analysis of parasequences within the productive middle member of the Eagle Ford formation at Lozier Canyon near Del Rio, Texas*. Gulf Coast Association of Geological Societies (GCAGS), Corpus Christi, TX, September 2016.
141. Lipman, H., Pfau, K., **Borrok, D.M.** (2016). A multi-proxy analysis of the Marcellus Shale in Northeastern Pennsylvania. In: *Geological Society of America Abstracts with Programs*, **48**(1), 12-10. doi:10.1130/abs/2016SC-273393
142. Shane, T., **Borrok, D.M.**, Lock, B.E. (2016). Geochemical analysis of parasequences within the productive middle member of the Eagle Ford Formation at Lozier Canyon near Del Rio, Texas. In: *Geological Society of America Abstracts with Programs*, **48**(1), 12-5. doi:10.1130/abs/2016SC-273859
143. Vanhazebroek, E., **Borrok, D.M.** (2016). Pre- and post-pyrolysis leaching of Eagle Ford Shale Samples to Better Evaluate the Inorganic Geochemistry of Kerogen. In: *Geological Society of America Abstracts with Programs*, **48**(1), 12-9. doi:10.1130/abs/2016SC-273616
144. Conlin, D., **Gottardi, R.**, Morra, G., Spezia, K. (2016). Numerical modeling of fluid flow and heat transfers in fault systems. In: *Geological Society of America Abstracts with Programs*, **48**(1), 8-2. doi:10.1130/abs/2016SC-273175
145. Adam, L., **Gottardi, R.** (2016). Depositional history and source rock characterization at teapot dome (WY). In: *Geological Society of America Abstracts with Programs*, **48**(1), 13-2. doi: 10.1130/abs/2016SC-273238
146. Schaper, M., **Gottardi, R.**, Barnes, J. (2016). Fluid-rock interaction in the Picacho Peak detachment shear zone (AZ). In: *Geological Society of America Abstracts with Programs*, **48**(7), 258-11. doi:10.1130/abs/2016AM-285898
147. Conlin, D., **Gottardi, R.**, Morra, G. (2016). Numerical modeling of fluid flow and heat transfers in porous media: implication for the hydrology of midcrustal shear zones, 2016 ). In: *Geological Society of America Abstracts with Programs*, **48**(7), 294-6. doi:10.1130/abs/2016AM-283564
148. **Gottardi, R.** (2016). *Thermomechanics of a detachment shear zone, Picacho Peak, AZ*. 2016 GSA Structural Geology and Tectonics Forum. Sonoma State University, Rohnert Park, CA, August 2016.
149. **Hillman, A.L.**, Abbott, M.B., Werne, J.P., Arkush, E., Thompson, L.G., Ferland, T., Holmes, E., Puhnaty, C., Woods, A.S., (2016). *Late Holocene Lake Level Fluctuations at*

- Laguna Arapa, Peru and Connections to Human Demography*. American Geophysical Union Fall Meeting. San Francisco, CA, December 2016.
150. Morris, J., Stoner, J.S., Reilly, B.T., Hatfield, R.G., Konyndyk, D., Abbott, M.B., Finkenbinder, M.S., **Hillman, A.L.**, (2016) *Lake Sediment Particle Size Analysis for Holocene Paleoenvironmental Study of Steens Mountain, Eastern Oregon*. American Geophysical Union Fall Meeting. San Francisco, CA, December 2016.
  151. Rodbell, D.T., Abbott, M.B., Weidhass, N.I., Hatfield, R.G., Woods, A.S., **Hillman, A.L.**, Tapia, P.M., Chen, C.Y., McGee, D., Stoner, J.S., Finkenbinder, M.S., Hatfield, R.G., Delgado, G.M., (2016) *Initial Results from the Deep Drilling of Lake Junin, Perú*. American Geophysical Union Fall Meeting. San Francisco, CA, December 2016.
  152. Weidhass, N.I., Woods, A.S., Abbott, M.B., Rodbell, D.T., Larsen, D.J., **Hillman, A.L.**, Finkenbinder, M.S., Hatfield, R.G., Delgado, G.M., Tapia, P. (2016) *Controls on the Composition and Distribution of Late Pleistocene and Holocene Sediment in Lake Junin, Perú*. Northeast Geological Society of America Meeting.
  153. Dahal, P., Van Asbrouck, J., Wu, F., Groopman, J.D., **Poudel, D.**, Kunusoth, K., & Bradford, K.J. (2016). *Dry Chain is a Social Preventive Intervention Tool for Liver Cancer by Minimizing Aflatoxins in Dry Foods* (Poster). Annual Conference of American Institute for Cancer Research. Washington DC, November 14-16, 2016.
  154. **Poudel, D.D.** (2016). *Water Quality Sampling and Assessment in a Coastal Agricultural Watershed in Louisiana*. USA. ASA-CSSA-SSSA International Annual Meeting. November 6-9, 2016, Phoenix, AZ.
  155. **Poudel, D.D.** (2016). *Water Quality Sampling and Assessment for Bayou Chene in Louisiana, USA*. 71<sup>st</sup> SWCS International Annual Conference. July 24-27, 2016, Louisville, KY.
  156. **Poudel, D.D.** (2016). *Rebuilding coupled with sustainable land use, food security, and agri-business for community resiliency in the Gorkha Earthquake devastated region in Nepal*. International Workshop on Gorkha Earthquake: Lesson Learned and Future Road Map for Safer Community and Sustainable Development, Department of Mines and Geology (DMG), Ministry of Industry, Government of Nepal. Kathmandu, Nepal, April 24-25, 2016.
  157. Bannister, T., **Poudel, D. D.**, & Duex, T. W. (2016). Mapping Geohazards in the Churia Region of Nepal: An Application of Remote Sensing and Geographic Information Systems to Quantify Change. In: *Geological Society of America Abstracts with Programs*, **48**(1), 3-2. doi:10.4172/2381-8719-C1-0011
  158. **Schubert, B.A.** & Cui, Y.\* (2016). *Atmospheric carbon dioxide persisted at near modern levels before and after the PETM* (Invited). American Geophysical Union Fall Meeting. San Francisco, CA, December 2016.
  159. **Schubert, B.A.** & Jahren, A.H. (2016). *Combined and isolated effects of pCO<sub>2</sub> and soil water content on carbon isotope discrimination during C<sub>3</sub> photosynthesis*. American Geophysical Union Fall Meeting. San Francisco, CA, December 2016.
  160. Cui, Y.\* & **Schubert, B.A.** (2016). *High-resolution pCO<sub>2</sub> reconstruction across the early Cenozoic greenhouse and late Cenozoic icehouse climates* (Poster). American Geophysical Union Fall Meeting. San Francisco, CA, December 2016.
  161. Grein, K.S.\* & **Schubert, B.A.** (2016). *Climate reconstruction in southern Louisiana using carbon isotope measurements of tree rings* (Poster). In: *Geological Society of America Abstracts with Programs*, **48**(1), 6-2. doi:10.1130/abs/2016SC-273481

162. Cui, Y.\* & **Schubert, B.A.** (2016). *High-resolution atmospheric pCO<sub>2</sub> reconstruction across the Paleogene using marine and terrestrial δ<sup>13</sup>C records*. Ocean Sciences Meeting. New Orleans, LA, February 2016.
163. Daley, T.M., Oldenburg, C.M., Borgia, A., **Zhang, R.**, Doughty, C., Jung, Y., Altundas, B., Chugunov, N. & Ramakrishnan, T.S. (2016). *Enhanced characterization of faults and fractures at EGS sites by CO<sub>2</sub> injection coupled with active seismic monitoring, pressure-transient testing, and well logging*, H130-05. American Geophysical Union Fall Meeting. San Francisco, CA, December 2016.
164. Wood, W., Runyan, T. & **Zhang, R.** (2016). *A machine learning approach to quantifying geologic similarities between sites of gas hydrate accumulation*, OS51B. American Geophysical Union Fall Meeting. San Francisco, CA, December 2016.
165. **Zhang, R.**, Zhang, K. & Alekhue, J.E. (2016). Depth domain seismic reflectivity inversion with compressed sensing technique. In: *SEG Technical Program Expanded Abstracts 2016*, 3587-3591. doi:10.1190/segam2016-13364227.1
166. **Zhang R.** & Fomel S. (2016). Application of predictive painting to well-log data interpolation and seismic inversion. In: *SEG Technical Program Expanded Abstracts 2016*, 3582-3586. doi:10.1190/segam2016-13577612.1
167. **Zhang R.** & Fomel S. (2016). Time-variant wavelet extraction with spectral decomposition for seismic inversion. In: *SEG Technical Program Expanded Abstracts 2016*, 3751-3756. doi:10.1190/segam2016-13531166.1
168. Karimi, P., Fomel, S. & **Zhang, R.** (2016). Time-lapse image registration using the stratigraphic-coordinate system. In: *SEG Technical Program Expanded Abstracts 2016*, 5500-5505. doi: 10.1190/segam2016-13870797.1
169. Oldenburg, C.M., Daley, T.M., Borgia, A., **Zhang, R.**, Doughty, C., Ramakrishnan, T.S., Altundas, B., Chugunov, N. (2016). *Preliminary simulations of carbon dioxide injection and geophysical monitoring to improve imaging and characterization of faults and fractures at EGS sites*. Stanford Geothermal Workshop 41<sup>st</sup> Annual. Stanford, CA, February 2016.
170. Landreneau, B. & **Visser, J.** (2016). *The effect of flooding duration and height on Spartina patens* (Poster). Gulf Estuarine Research Society Fall Meeting, Society of Wetland Scientists, South Central and South Atlantic Chapters. Pensacola Beach, FL, November 3-5, 2016.
171. Hester, M.W., Sloey, T.M., Willis, J.M., & **Visser, J.M.** (2016). *Understanding Coastal Wetland Plant Responses to Flooding*. State of the Coast Conference. New Orleans, LA June 1-3, 2016.
172. **Visser, J.M.** (2016). *Existing Diversion Impacts on Flooding and Plant Responses*. State of the Coast Conference. New Orleans, LA June 1-3, 2016.
173. Duke-Sylvester, S.M., **Visser, J.M.**, & Baustian M. (2016). *Modeling the Effect of Flooding on Wetland Vegetation*. State of the Coast Conference. New Orleans, LA June 1-3, 2016.
174. Meselhe, E., Baustian, M., Jung, H., Sadid, K., Xing, F., Khadka, A., Allison, M., Duke-Sylvester, S., **Visser, J.**, Smith, J., Jueken, M., & Van Maren, B. (2016). *Mississippi River Hydrodynamic and Delta Management Study (MRHDM): Basin-Wide Delft3D Model Setup, Validation, and Application*. State of the Coast Conference, New Orleans, LA June 1-3, 2016.

175. White, E., Meselhe, E., Brown, T., Couvillion, B., Dong, Z., Green, M., Duke-Sylvester, S., McCorquodale, A., Rodrigue, M., Schindler, J., Thomson, G., **Visser, J.**, Wang, J., Habib, E., & Reed, D. (2016). *Integrated Compartment Model (ICM) Application: Scenarios, Uncertainties and Project Evaluations*. State of the Coast Conference, New Orleans, LA June 1-3, 2016.
176. Habib, E., Deshotel, M., Bodin, M., Miller, R., Meselhe, E., Roth, B., Williams, D. & **Visser, J.** (2016). *Unlocking the Educational Value of Louisiana Coastal Restoration: Development of Web-Based Active-Learning Modules for Undergraduate Education*. State of the Coast Conference, New Orleans, LA June 1-3, 2016.

## 2015

177. Syverson, D., Luhmann, A., Tan, C., **Borrok, D.M.**, Ding, K., Seyfried, W. (2015). *Fe and Cu isotope fractionation between chalcopyrite and dissolved metal species during hydrothermal recrystallization: An experimental study at 350 °C and 500 bars*. AGU Annual Fall Meeting, San Francisco, CA, December 2015.
178. **Borrok, D.M.**, Broussard, W.P., Jennings, J.E., Cravens Barth, T. (2015). *Evolution of salinity in the coastal Chicot aquifer systems, Louisiana, USA*. In: *Geological Society of America Programs with Abstracts*, **47(7)**, 485.
179. **Borrok, D.M.**, Habib, E., Broussard, W.P., DeRouen, J., **Poudel, D.**, Zhang, N. (2015). *Surface water use to counterbalance groundwater withdrawals in Southwest Louisiana*. Ninth Annual Louisiana Groundwater, Water Resources & Environmental Symposia. Baton Rouge Geological Society, Louisiana Geological Survey & Louisiana Water Resources Research Institute. Baton Rouge, LA, April 2015.
180. Broussard III, W.P., Habib, E., **Borrok, D.M.**, Smith, K., DeRouen, J. (2015). *GIScience as a great integrator in transdisciplinary research and educational models for water sustainability*. Association of American Geographers Annual Meeting. Chicago, IL, April 2015.
181. Broussard, W.P., Chen, J., Santos, F.B., Habib, E., **Borrok, D.M.** (2015). *Integrating Social and Environmental Data in a Georeferenced Surface Water Use-Availability Model*. Ninth Annual Louisiana Groundwater, Water Resources & Environmental Symposia. Baton Rouge Geological Society, Louisiana Geological Survey & Louisiana Water Resources Research Institute. Baton Rouge, LA, April 2015.
182. **Borrok, D.M.**, Geyer, N., Vanhazebroek, E. (2015). Inorganic and organic geochemistry of petroleum source rocks. In: *Geological Society of America Programs with Abstracts*, **47(1)**, 5.
183. Habib, E., Sumi, S., Tamanna M., **Borrok, D.M.** (2015). *How representative are climate model outputs of regional precipitation characteristics?* (Poster Presentation) Annual meeting of Water Sustainability and Climate, NSF Grantees. Washington DC, February 9-11, 2015.
184. **Borrok, D.M.** (2015). *A surface water management framework to counterbalance groundwater withdrawals in wetter regions of the U.S*. National Science Foundation Water Sustainability and Climate Meeting, Arlington, VA.
185. **Costigan, K.H.**, Goss C.W., Jaeger K.L., & Goebel P.C. (2015). *Comparison of wet/dry mapping and electrical resistivity sensors to characterize patterns of intermittency*. American Geophysical Union Fall Meeting. San Francisco, CA, December 2015.
186. \*Wellemeier, C.J., Perkin, J.S., Jameson, M.L., & **Costigan, K.H.** *Synthesizing*

- multiscale processes regulating persistence of Arkansas Darter.*
187. Mason, S.L., **Gottardi, R.** (2015). *Structural Characterization of the Eagle Ford Formation, Val Verde County, TX.* Gulf Coast Association of Geological Societies and Gulf Coast Section of SEPM 65<sup>th</sup> Annual Convention. Houston, TX, September 2015.
  188. Hamilton S.M., **Gottardi R.** (2015). *An investigation of the mass balance of Oil and Gas produced versus estimated reserves remaining within the A.W.P. Field, McMullen County, Texas.* 2015 AAPG West Coast Student Expo.
  189. Mason, S.L., **Gottardi, R.** (2015). *Structural Characterization of the Eagle Ford Formation, Val Verde County, Texas.* LAGCOE 2015. Lafayette, LA, October 2015.
  190. Hamilton, S.M., **Gottardi, R.** (2015). *An investigation of the mass balance of Oil and Gas produced versus estimated reserves remaining within the A.W.P. Field, McMullen County, Texas.* LAGCOE 2015. Lafayette, LA, October 2015.
  191. Berkland, M.T., **Gottardi, R.** (2015). Strain analysis across a detachment shear zone, Picacho Peak, AZ. In: *Geological Society of America Abstract with Programs*, **47(7)**, 372.
  192. Spezia, K., **Gottardi, R.**, Morra, G. (2015). Numerical modeling of fluid flow and heat transfers in porous media: Implications for the hydrology of mid-crustal shear zones. In: *Geological Society of America Abstract with Programs*, **47(7)**, 316.
  193. Sutton D., **Gottardi R.**, **Kinsland G.L.** (2015). Structural and Geophysical analysis of Roatan Island Honduras, Western Caribbean. In: *Geological Society of America Abstract with Programs*, **47(7)**, 617.
  194. **Kinsland, G.L.** (2015). Thoughts on the Relationship of Structures of the Northern Margin of the Gulf of Mexico Basin to Early Rifting of the Basin. In: *Geological Society of America Abstract with Programs*, **47(1)**, 45.
  195. **Poudel, D.D.** & Duex, T.W. (2015). *Declining water resources and environmental degradation: A case of the Thulokhola watershed in the Nuwakot district of Nepal.* XXIII International Grassland Congress. New Delhi, India, November 20-24, 2015.
  196. **Poudel, D.D.** & Klerks, P. (2015). *Water Quality Monitoring in Bayou Chene and Lacassine Bayou in Louisiana.* 70<sup>th</sup> SWCS International Annual Conference, Putting Science into Practice. Greensboro, NC, July 26-29, 2015.
  197. **Poudel, D.D.** *Establishing Agro-Industrial Information System for Rebuilding Earthquake Devastated Rural Nepal* (Poster). Geological Society of America Annual Meeting. Baltimore, MD, November 1-4, 2015.
  198. Elhelou, O.\* & **Richter, C.** (2015). *Magnetic susceptibility mapping of fly ash in soil samples near a coal-burning power plant in Pointe Coupee Parish, Louisiana*, B11D-0476. AGU Annual Fall Meeting. San Francisco, CA, December 2015.
  199. **Richter, C.**, Adesiyun, O.\*, Acton, G., Sidorovskaia, N., Sierro, F., Xuan, C., & Verosub, K. (2015). *High-resolution magnetic properties and cyclicity of controurites from IODP Site U1389 West Iberian Margin*. GP51A-1313. AGU Annual Fall Meeting. San Francisco, CA, December 2015.
  200. Xuan, C., **Richter, C.**, Acton, G., Stoner, J., Li, B., Hodell, D., Ducassou, E., MacLachlan, S., & Voelker, A. (2015). *Millennial scale geomagnetic and environmental change in the West Iberian Margin during late Quaternary*, GP51A-1312. AGU Annual Fall Meeting. San Francisco, CA, December 2015.
  201. Cui, Y. and **Schubert, B.A.** (2015). *Atmospheric pCO<sub>2</sub> reconstructed across the Early Eocene Hyperthermals.* AGU Annual Fall Meeting, San Francisco, CA, December 2015.

202. **Schubert, B.A.**, Jahren, A.H., & Davydov, S.P. (2015). *Wet winters in the eastern Siberia Arctic during the Miocene*. AGU Annual Fall Meeting. San Francisco, CA, December 2015.
203. **Visser, J.M.**, Green, M., Belhadjali, K., & Reed, D. (2015). *Using Science in Coastal Restoration Planning: 20 Years of Experience*. Coastal Estuarine Research Federation 23<sup>rd</sup> Biennial Conference. Portland, OR, November 2015.
204. Meselhe E, White E, Brown S, Couvillion B, Dong Z, Green M, Duke-Sylvester S, McCorquodale, A., Rodrigue, M., Schindler, J., Thomson, G., **Visser, J.M.**, & Wang, J. (2015). *Coastal ecosystem integrated compartment model (ICM): Modeling framework*. Coastal Estuarine Research Federation 23<sup>rd</sup> Biennial Conference. Portland, OR, November 2015.
205. Duke-Sylvester, S., **Visser, J.M.**, & White, E. (2015). *LAVegMod: Modeling Long-term Coastal Vegetation Change at the Landscape Scale*. Coastal Estuarine Research Federation 23<sup>rd</sup> Biennial Conference. Portland, OR, November 2015.
206. White E, Meselhe E, White E, Brown S, Couvillion B, Dong Z, Green M, Habib E, Duke-Sylvester, S., McCorquodale, A., Reed, D., Schindler, J., Thomson, G., & **Visser, J.M.** (2015). *Integrated Compartment Model (ICM) application: Scenarios, uncertainties and project evaluations*. Coastal Estuarine Research Federation 23<sup>rd</sup> Biennial Conference. Portland, OR, November 2015.
207. Jarrell, E., Meselhe, E., Baustian, M., Jung, H., Allison, M., Reed, D., Pahl, J., Duke-Sylvester, S., **Visser, J.M.**, Smits, J., Jueken, M., & VanMaren, B. (2015). *Predictive Modeling for a Proposed Network of Diversion. Projects across the South Louisiana Landscape*. Coastal Estuarine Research Federation 23<sup>rd</sup> Biennial Conference. Portland, OR, November 2015.
208. Couvillion, B., Hartley, S., **Visser, J.M.**, Beck, H., & Maass, A. (2015). *Wetland vegetation community type change in coastal Louisiana from 1973-2013*. Coastal Estuarine Research Federation 23<sup>rd</sup> Biennial Conference. Portland, OR, November 2015.
209. Meselhe, E., White, E., Brown, S., Couvillion, B., Dong, Z., Green, M., Duke-Sylvester, S., McCorquodale, A., Rodrigue, M., Schindler, J., Thomson, G., **Visser, J.M.**, & Wang, J. (2015). *Coastal ecosystem integrated compartment model (ICM): Modeling framework*. AGU Annual Fall Meeting. San Francisco, CA, December 2015.
210. **Zhang R.**, Zhang B. (2015). Seismic reflectivity attributes. In: *SEG Technical Program Expanded Abstracts 2015*, 2868-2871. doi:10.1190/segam2015-5746900.1
211. **Zhang, R.**, Vasco, D.W., Daley, T.M. & Harbert, W. (2015). *Characterization of a fracture zone using seismic attributes at the In Salah CO<sub>2</sub> storage project*. SEG International Exposition and 85<sup>th</sup> Annual Meeting. New Orleans, LA, October, 2015.
212. **Zhang, R.**, Daley, T., & Vasco, D. (2015). *Study of seismic diffraction wave caused by a fracture zone at In Salah carbon dioxide storage project*. Engineering Mechanism Institute Conference. Stanford University, Stanford, CA, June 2015.



## Graduate Student Production

### **M.S. Students Graduated**

Bennett, Randall	FA18	Ely, Samuel	SP17
Broussard, Kevin	FA18	Filkins, Ashley	SP17
Miller, Madison	FA18	Horton, Lindsey	SP17
Attia, Kareem	FA18	Ivy, Robert	SP17
Berry, Hunter	FA18	McIntosh Jr., Duncan	SP17
Brennan, Anne	FA18	Reece, John	SP17
Ghalayini, Zachary	FA18	Robillard, Samantha	SP17
Loundagin, Nicholas	FA18	Rouse, Annaliese	SP17
Pasley, James	FA18	Runyan, Taylor	SP17
Quick, Nathan	SU18	Adesiyun, Oludamilola	FA16
Muchir, Eric	SU18	Angelo, Jared	FA16
Allen, Carson	SP18	Bannister, Terri	FA16
Borel, Megan	SP18	Bujard, Jade	FA16
Canezaro, Morgan	SP18	Conlin, Daniel	FA16
Dorn, Taylor	SP18	Juneau, Jacob	FA16
Dye, Brian	SP18	Lipman, Hunter	FA16
Ferguson, Gregory	SP18	Mason, Shanna	FA16
Gaiennie, Edward	SP18	O'Brien, Michael	FA16
Jeansen, Sean	SP18	Schaper, Maxwell	FA16
Koppens, Kohl	SP18	Boucher, Ryan	SP16
Locci Lopez, Daniel	SP18	Costa, Ayrton Luiadi Cunha Da	SP16
Martz, Lauren	SP18	Hoang, Hong Thuy	SP16
Vaught-Mijares, Roxanna	SP18	Monlezun, Christian	SP16
Workman, Sydne	SP18	Shane, Timothy	SP16
Clark, Cameron	SP18	Berkland, Michael	FA15
Leglue, Parker	SP18	Dayley, Jason	FA15
Yun, Samuel	SP18	Guynes, Jake	FA15
Beck, Alexander	FA17	Hamilton, Scott	FA15
Creed, Cari	FA17	Helm, Jolie	FA15
Friedman, Daniel	FA17	Spezia, Kyle	FA15
Lissard, Ben	FA17	Sutton, Daniel	FA15

Moore, Collin	FA17	Weitkunat, Sydney	SP15
Pellegran, Morgan	FA17	Elhelou, Othman	SP15
Roth, Mark	FA17	Landry, Todd	SP15
Seaux, Gage	FA17	Lasisi, Ayokomi	SP15
Speyrer, Fabiane Barato	FA17	Moore, Keith	SP15
Telus, Rose	FA17	Trahan, Matthew	SP15
Wang, Eric	FA17	Weitkunat, Sydney	SP15
Zwennes, Jesse	FA17	Murley, Christopher	FA14
Chapman, Taylor	SU17	Dada, Olamide	SP14
Lenz, Rebecca	SU17	Higginbotham, Brennan Thomas	SP14
Nevitt, Dale	SU17	Simonis, Alan Finbar	SP14
Perreault, Luke	SU17	Stiles, Lauren	SP14
Robinson, Ansley	SU17	Mcvey, Timothy Keith	SP14
Shellhouse, Kody	SU17	Bearb, Nicholas	FA13
Valentine, Leslie	SU17	Lahey, Michael	FA13
Wosu, Umatu	SU17	Roy, Michelle	SP13
Adams, Logan	SP17	Hatamian, Christopher	SP13
Adkison, Alan	SP17		

## **Funding**

### **Grants and Contracts (completed or current only):**

#### **BORROK**

- **National Science Foundation.** Food-Energy-Water Nexus Supplement to current WSC-Category 1 grant. (8/1/14-7/31/17); **Borrok PI, \$97,645** to UL Lafayette. Supplement was obtained in 2015.
- **U.S. Geological Survey.** \$105,000. *Forest hydrology and accretion modeling to evaluate the impacts of Hurricane Sandy* (9/15/13 – 1/1/15). Borrok PI.
- **National Science Foundation.** WSC-Category 1 Collaborative: A surface water management framework to counterbalance groundwater withdrawals in wetter regions of the U.S. (8/1/14 – 7/31/17); \$600,000 (\$490,000 for UL: \$110,000 for McNeese). Borrok PI.
- **Halliburton Foundation.** Increasing the number of female geoscientists in the oil and gas industry (10/14 – 9/16); Borrok CO-PI, \$28,000.
- **NSF OCE, 1232587.** (9/1/12-8/31/14 – with one year extension to 8/15). *Collaborative Research: Experimental Study of Mineral-Fluid Fractionation of Non-Traditional Isotopes*

(Fe, Cu, Zn, S) with Implications for Seafloor Hydrothermal Systems. Borrok is PI of UL-Lafayette portion, **\$68,000**.

- **U.S. Geological Survey. \$105,000.** Forest hydrology and accretion modeling to evaluate the impacts of Hurricane Sandy (9/15/13 – 9/14/15). Borrok PI.

### **COSTIGAN**

- **2017-2020 REU Site: Healthy Streams, Healthy Coasts: An Interdisciplinary Approach to Watershed Science and Education.** PI: Katie H. Costigan (ULL), Co-PIs: Beth Stauffer (ULL), Senior Personnel: Nathan Dolenc, Daniel Gang, Emad Habib, Paul Klerks, James Nelson, Kelly Robinson, Taylor Sloey, Jenneke Visser (all ULL faculty). Funding Source: National Science Foundation, EAR/GEO-OCE, EPScOR (1659853). Amount: **\$287,986** to ULL

### **GOTTARDI**

- Louisiana Board of Regents, Research Competitiveness Subprogram: “Investigating fluid-rock interaction during continental tectonics”, R. Gottardi (PI), 06/01/2015 – 07/01/2017, \$127,633
- Title: Increasing the number of female geoscientists working in the oil and gas industry, Source of Support: Halliburton Foundation. Award Amount: **\$28,000**. Period covered: 09/01/2014-09/01/2016.

### **HARGRAVE**

- **“In Search of Earth’s Secrets” Traveling Exhibit Grant, \$15,000**, (2020). This grant was awarded to help with display and outreach after being chosen to host the National Science Foundation funded exhibit.
- **Ethnic Diversity, Gender Diversity, Incorporation of Halliburton Technologies into Curriculum Grant, \$13,500**. (2020) This grant funds a 5-day summer camp for local high schoolers. The Geaux Geo: Louisiana’s Past & Present is designed to allow high school students to explore geology and career options.
- **Ethnic Diversity, Gender Diversity, Incorporation of Halliburton Technologies into Curriculum Grant, \$10,000**, (2018). This grant was used to create the UL Geology High School Summer Scholars Program. Local high school students attended a 6-day geology “boot camp”, exploring geology and career options.
- **BLM OR/WA - Historical, Archaeological & Paleontological Resources Inventory, Research and Proactive Protection, Lakeview District Grant, \$20,000**, (2016). This grant allowed the inclusion of students on the 6-week summer paleontological field project to Oregon. The expedition successfully recovered rare giant camel, *Megatylopus*, skeletons, as well as other fauna.

### **HILLMAN**

- **NSF-Archaeology, 2016-2018, co-PI “Bridging Paleolimnology and Archaeology through Human Biomarkers in Lake Sediment: Demography, Land-use, and Climate in the Northwest Titicaca Basin”, 0 months effort, \$18,783**

- **NSF-Geomorphology and Land Use Dynamics**, 2017-2020, co-PI, “Quantifying Human Forcing of Legacy Sediment and Metal Contamination Dynamics on the Yunnan Plateau of Southwestern China”, 1 month effort, **\$166,606**, ~\$55,000/annually
- **Louisiana Board of Regents Research and Development Program**, 2017-2018, PI, “Developing an Understanding of Nutrient Loading, Metal Contamination, and Sediment Delivery to Lakes in Southwestern Louisiana”, 0 months effort, **\$19,050**

#### **KINSLAND**

- **Borst**, Christoph and Gary L. Kinsland, 2015, Visual Analytics Lab: Interactive Visualization and Analysis of Big Data for Research and Education, Equipment Grant funded from Board of Regents Traditional and Undergraduate Enhancement, Awarded: **\$89,929**.
- **United States Geological Survey, \$75,000**, FUNDED National Coal Resource Data System (NCRDS) North Louisiana Carbonaceous Sediments Natural gas Data Collection and Geological Assessment Program, over 5 year period, July 1, 2010 – June 30, 2015

#### **POUDEL**

- Bayou Chene Water Quality Sampling Project. **Louisiana Department of Environmental Quality**, June 15, 2015 to September 30, 2017. Amount Awarded **\$507K** [Ongoing] [PI] 35% time.
- **Wildflower Seed Bank**, Yr 5, LaDOTD. 7/01/2010 to 12/31/2017. Amount Awarded **\$114,050**. [Ongoing] [PI] 5% time.
- **Wildflower Seed Bank Renovation Project**, ongoing. [PI]
- **WATER QUALITY SAMPLING IN BAYOU CHENE PROJECT**, Louisiana Department of Environmental Quality, June 15, 2015 to September 30, 2017. Amount awarded by LDEQ **\$507,644**. [PI] 35% time.
- Co-PI: NSF WSC-Category 1 Collaborative: A surface water management framework to counterbalance groundwater withdrawals in wetter regions of the U.S. (Aug 2014-Aug 2017. (PI, David Borrok). Successful.

#### **RICHTER**

- **\$362,772 NSF-MRI: Acquisition of a Closed-Loop PPMS Enhanced for Multidisciplinary Research and Education at the University of Louisiana at Lafayette** (Role: co-PI) – Dates: 09/01/2020 – 08/31/2022
- **\$456,593 NSF-MRI: Autonomous real-time monitoring of Gulf ecology with SeaGliders: advancing interdisciplinary research and education through modern technology** (Senior Personnel) Dates: August 1, 2018-July 31, 2020. **Richter, C.**
- \$14,895 U.S. Science Support Program: Revised Magnetostratigraphy and Rock Magnetic Analysis of Cores from IODP Expedition 369 Dates: March 1, 2018-February 29, 2020 Role: PI. **Richter, C.**

- **\$58,473 Columbia University/National Science Foundation:** Research Subaward, Participation on IODP. Expedition 369. PI – Awarded.
- **\$42,333, STEP:** Geology Student Computer Lab Upgrade (HH 322) – awarded FA15
- **National Science Foundation:** Collaborative Research: Resolving Centennial-Scale Environmental Change and Geomagnetic Field Variability From Iberian Margin Sediment Drifts Cored on IODP Expedition 339. (\$100,000 to UL): 11/01/2013-10/31/2015. **\$200,000.**

## SCHUBERT

- **National Science Foundation, Paleo Perspectives on Climate Change,** “Development of new high-resolution pCO<sub>2</sub> records for quantifying Earth system climate sensitivity,” 2016-2019 (PI, 1.0 months), **\$347,945.**
- **National Science Foundation, Water Sustainability and Climate,** “A surface water management framework to counterbalance groundwater withdrawals in wetter regions of the U.S.,” 2014-2017 (Senior Personnel, 0.25 months), **\$483,914.**
- **US Geological Survey, Cooperative Ecosystems Studies Unit National Network,** “Forest hydrology and accretion modeling to evaluate the impacts of Hurricane Sandy,” 2013-2014, (co-P.I.), **\$105,000.**
- **Board of Regents Support Fund, Enhancement Program,** “Acquisition of a pyrolysis instrument to characterize organic carbon in support of a shale gas resource education and research initiative,” 2013-2015 (co-P.I.), **\$229,500.**
- **U.S. Department of Energy, Basic Energy Sciences, Geosciences and Biosciences Division, \$195,745.** “Fundamental research on the fractionation of carbon isotopes during photosynthesis: new interpretations of terrestrial organic carbon within geologic substrates,” 2013-2016 (P.I. Schubert, BA).
- **National Science Foundation. \$63,306.** Sedimentary Geology and Paleobiology, "Paleoclimate analysis of a Miocene Arctic forest from the Kolyma River Basin, Northeastern Russia," 2013-2015 (P.I. Schubert, BA).

## VISSER

- **Sea Grant UROP: \$2,500 Effect of flooding timing on the growth of *Spartina patens*** 3/17-12/17 Student: Meg Rinaudo.
- **The Water Institute of the Gulf: \$71,681,** 2017 Coastal Master Plan Model Development and Application: LaVegMod. PI Visser, CoPI: Duke-Sylvester 6/1/15 – 6/30/17, R4487
- **LUMCON: \$5,986,** Wetland Vegetation Class, PI Visser 7/15/15 – 7/25/15, R3986
- **Sea Grant UROP: \$2,500** Do salinity and fertilization affect *Sagittaria lancifolia* growth? 3/14-12/14 Student: Alexandra Pasch
- **USGS National Wetland Research Center: \$96,890** Development and refinement of

vegetation based analytical tools and analysis of the Coastwide Reference Monitoring System (CRMS) dataset. 4/1/14 – 3/31/18

- **USGS National Wetland Research Center: \$44,847** Structured decision-making to facilitate multi-stakeholder coastal conservation and restoration under climate change uncertainties: case study on barrier islands of the northern Gulf of Mexico. (6/14-6/15)
- **Sea Grant: \$158,386 (+102,006 match)** Impact of Climate Change on the Eco-Hydrology of Louisiana Coastal Ecosystem: Development of Research-Driven Student-Centered Learning Modules. PI Habib 8/18-7/16
- The Water Institute of the Gulf: \$4,573 Phase I Modeling for Mid-Barataria Sediment Diversion: LAVegMod. PI:Duke-Sylvester9/17/2014 to 2/28/2015,
- **The Water Institute of the Gulf: \$89,697** Basin-Wide Model Development for the LCA Mississippi River Hydrodynamic and Delta Management Study PI Duke-Sylvester, 3/15/2014 to 5/31/2015,
- **The Water Institute of the Gulf: \$67,193** Task 4.4 Develop an approach for additional vegetation types. CoPI: Duke-Sylvester. 9/1/13-8/31/17.

## ZHANG

- U. S. Department of Energy, Office of Fossil Energy, National Energy Technology Laboratory, Tuscaloosa Marine Shale Laboratory, 2018-2020, \$9,657,000.00 (CO-PI). Award DE-FE0031575. 2020
- **Louisiana Transportation Research Center**, University Transportation Center, Synthesis of Faults Traces in SE Louisiana Relative to infrastructure, 2017-2018, **\$6,000.00** (CO-PI).
- **Restore Act Center of Excellence for Louisiana**, An evaluation of faulting in Holocene Mississippi river delta strata through the merger of deep 3-D and 2-D seismic data with near surface imaging and measurements of vertical motion at three study areas, Contract Number: **CPRA-2015-COE-JE, 2017-2019. Total** funding \$349,174.00, ULL subcontract **\$75,545.00** (CO-PI).
- **Bureau of Geophysical Prospecting (BGP) Inc**, Depth Domain Seismic inversion and wavelet extraction, 2017-2018, \$200,000.00 (PI).
- Sinopec Tech Houston LLC, Innovative geophysical technology development, 2017-2019, **\$240,000.00** (PI).
- **Louisiana Transportation Research Center**, University Transportation Center, Synthesis of Faults Traces in SE Louisiana Relative to infrastructure, 2017-2018, **\$6,000** (CO-PI).
- **Restore Act Center of Excellence for Louisiana**, An evaluation of faulting in Holocene Mississippi river delta strata through the merger of deep 3-D and 2-D seismic data with near surface imaging and measurements of vertical motion at three study areas, 2017-2018. Total funding **\$350,501**, ULL subcontract **\$66,392** (CO-PI).
- **BGP Inc**, Depth Domain Seismic inversion and wavelet extraction, 2017-2018,

**\$200,000 (PI).**

- **Sinopec Tech Houston LLC**, Innovative geophysical technology development, 2017-2019, **\$240,000 (PI).**
- **Department of Energy, Energy Efficiency & Renewable Energy, Integrated Enhanced Geothermal Systems (EGS) Research and Development:** Push-pull well testing using CO<sub>2</sub> with active source geophysical monitoring, Control Number: 0842-1554. 2014-2016, total funding **\$750K**, ULL subcontract \$54K.

### **Invited Talks Lectures, Including Plenary, and Keynotes, Etc.**

#### **COSTIGAN**

- Allen, D.C., and Costigan, K.H. Arizona Riparian Council Annual Meeting, 15 October 2015

#### **DUEX**

- Duex, Timothy W., 2018, An Overview of the Geology of Nepal with Emphasis on Hydrogeology, Baton Rouge Geological Society, January meeting.

#### **GOTTARDI**

- **Gottardi, R.**, Casale, G., Borel, M., 2019, Exhumation Of The Coyote Mountains Metamorphic Core Complex (AZ): Implications For Orogenic Collapse Of The Southern North American Cordillera, Geological Society of America Abstracts with Programs. Vol. 51, No. 5. doi: 10.1130/abs/2019AM-338608
- **Gottardi, R.**, Louisiana State University Seminar, 09/18/2020, Exhumation of the Coyote Mountains metamorphic core complex (AZ): implications for orogenic collapse of the southern North American Cordillera.
- **Gottardi, R.**, O'Leary, M., 2019, Relationship between growth fault and subsidence: impact on coastal erosion, an example from Cameron Prairie, southwestern Louisiana, September 2019, Baton Rouge Geological Society.
- **Gottardi, R.**, O'Leary, M., 2018. Relationship between growth fault and subsidence: impact on coastal erosion, an example from Cameron Prairie, southwestern Louisiana, 2018 Indianapolis GSA Fall Meeting.
- **Gottardi, R.**, Casale, G., 2018. Tectonic evolution of the Coyote Mountains metamorphic core complex (SW AZ), 2018 Structural Geology and Tectonics Forum, Tempe, AZ.
- **Gottardi, R.**, 2016. Thermomechanics of a detachment shear zone, Picacho Peak (AZ), 2016 Structural Geology and Tectonics Forum, Sonoma, CA.

#### **HARGRAVE**

- **Hargrave, J.E.** *Teaching Evolution Through the Scientific Method.* Annual Meeting, Earth Educators Rendezvous, Nashville, Tennessee, 2019.
- Kaiser, J.F., Hogan, J., MacLean, J.S., and **Hargrave, J.E.**, *Using Student-Led Field Trips to Create Active Learning Environments and Validate Student Interpretations.*

Annual Meeting, Geological Society of America Abstracts with Programs, 47, Baltimore, Maryland, 2015.

- Scholz, C.A., Morrissey, A.J., Hicks, M.K., and **Hargrave, J.E.** *Facies architecture in rifts: Comparative controls of siliciclastic versus carbonate systems in extensional Basins.* Petroleum Systems in “Rift” Basins: 34<sup>th</sup> Annual GCSSEPM Foundation Bob F. Perkins Research Conference, Houston, Texas, 2015.
- Beckham, D. and **Hargrave, J.E.** *Lithology and copper concentrations in southwestern Utah.* Annual Meeting, National Conference on Undergraduate Research, Eastern Washington University, 2015.
- King, B.M. and **Hargrave, J.E.** *Experiential learning to gain a deeper understanding of geological concepts.* Annual Meeting, National Conference on Undergraduate Research, Eastern Washington University, 2015.

#### **HILLMAN**

- UL-Lafayette Cajun IGNITE session on Louisiana studies
- Louisiana State University Geology

#### **KINSLAND**

- **Kinsland, Gary L.,** 2020, Think Surface-Sourced Seismic Data to Find Shallow By-Passed Petroleum in Louisiana, presentation to the February meeting of the Southwestern Louisiana Geophysical Society.
- **Kinsland, Gary L.,** 2019, Kinematic Deconstructions/Reconstructions from Rodinia to the Present Gulf of Mexico Basin. Presented at Joint meeting South Central, North Central, Rocky Mountain Sections of the Geological Society of America, Manhattan Kansas, 25 – 27 March, abstract in program, presentation slides: <https://gsa.confex.com/gsa/2019SC/meetingapp.cgi/Paper/327503>
- **Kinsland, Gary L.,** 2019, The Effects of the Chicxulub Impact Found in the Subsurface of Northern Louisiana, American Association of Petroleum Geologists, Annual Convention and Exposition, San Antonio, Texas, 19 – 22 May, abstract in program, abstract and presentation: AAPG Datapages/Search and Discovery.
- **Kinsland, Gary L.,** 2019, All Growth Faults are, or have been, Surface Faults, presented at Louisiana Coastal Geology Symposium 2019, Baton Rouge, LA, Oct. 17 – 18, 2019.
- **Kinsland, Gary L.,** 2019, Coastal Geohazards, presentation to the August meeting of the Lafayette Petroleum Landmen.
- **Kinsland, Gary L.,** 2019, Coastal Geohazards and Faulting in Southern Louisiana, presentation to the October meeting of the Desk and Derrick Organization.
- **Kinsland, Gary L.,** 2018, Faulting in Southern Louisiana, presented at Louisiana Coastal Geology Symposium 2018, Baton Rouge, LA, July 10-11, 2018.
- **Kinsland, Gary L.,** 2018, What was between the Yucatan Peninsula and the Ouachita Mountains at the end of the Paleozoic?: Histories of present structures offer clues, presentation at meeting of South-Central Region of Geological Society of America, San Antonio, Texas, March 12, Powerpoint archived.
- **Kinsland, Gary L.,** Kody Shellhouse, Eric Muchiri and Forrest Frederick, 2018, Analyses and Interpretations of a Conventional Core from Central Louisiana, which Contains Deposits Resulting from the Effects of the Chicxulub Impact, paper in



proceedings: Gulf Coast Association of Geological Societies Transactions, Vol. 68, p. 597-604.

- Nick Loundagin and **Gary L. Kinsland**, 2018, Structural Styles and Geotectonic Elements in Northwestern Mississippi: Interpreted from Gravity, Magnetic, and Proprietary 2D Seismic Data, paper in proceedings: Gulf Coast Association of Geological Societies Transactions, v. 68, p. 615-620.
- **Kinsland, Gary L.**, John Snedden, Jon Virdell, Kaare Egedahl, Martell Strong, Robert Ivy, Kody Shellhouse, Eric Muchiri and Forrest Frederick, 2018, K/Pg Research at University of Louisiana at Lafayette, Presented at November, Monthly Meeting of the New Orleans, Geological Society.
- Invited Presentation at EarthScope/NSF Workshop: **Kinsland, Gary L.**, Robert Ivy, Nick Loundagin, Kevin Broussard and Tyler Hebert, 2017, Northern Gulf Basin Structure, Presentation at EarthScope/ NSF Workshop on Structure of the Southern Margin of North America Baylor University, Waco Texas, Feb. 4 – Feb 8.
- **Kinsland, Gary L.**, 2017, Study and Ultimately Drill the Sabine Uplift so as to Better Understand the Northern Boundary of the Gulf of Mexico Basin (GoMB), presentation at the Continental Scientific Drilling Coordination Office Workshop, University of Minnesota, Minneapolis, MN, 5/17/17-5/20/17.
- **Kinsland, Gary L.**, John Snedden, Jonathan Virdell, Kody Q. Shellhouse and Eric Muchiri, 2017, Seismic, Well-log and Core Data Characterization of the K/Pg Boundary, Cretaceous Chalk/Paleogene Shale, in Central Louisiana, presentation, abstract in proceedings: Geological Society of America, South Central Section Meeting, PowerPoint available GSA SC meeting online.
- Invited Presentation: **Kinsland, Gary L.**, John Snedden, Jon Virdell, Kaare Egedahl, Martell Strong, Robert Ivy, Kody Shellhouse, Eric Muchiri and Forrest Frederick, 2017, K/Pg Research at University of Louisiana at Lafayette, Presented at September, Monthly Meeting of the Shreveport Geological Society.
- **Kinsland, G.L.**, Kody Shellhouse, Eric Muchiri, John W. Snedden, Jon W. Virdell, 2017, Midway Shale: Post-Cretaceous/Paleogene Boundary Deposition, paper in proceedings: Gulf Coast Association of Geological Societies Transactions, Vol. 67, No. 1, p. 177-186.
- **Kinsland, Gary L.**, 2017, Geophysical Data Define Boundaries and Sub-regions of the Northern Gulf of Mexico Basin: Structural Histories and Causes are Hypothesized, poster at Dec. 2017 American Geophysical Union meeting in New Orleans, LA.
- Invited Presentation at the Louisiana State Bar Association Annual Meeting in Sandestin, FL: Geologic Perspective on the Legal Aspects of Hydraulic Fracking, May 2015

## OPPO

- **Oppo D.**, Hurst A. (2020) - Seepage Rate of Hydrothermally Generated Petroleum in East African Rift Lakes: an Example from Lake Tanganyika. AAPG ACE 2020, Sept 29-Oct 1, Houston, USA. (Virtual do to Covid-19)
- **Oppo D.**, De Siena L., Kemp D. (2020) - A record of seafloor methane seepage across the last 150 million years. EGU General Assembly 2020, 3-8 May, Vienna, Austria. (Virtual do to Covid-19)

- **Oppo D.,** Capozzi R. (2017) - Spatial association of mud volcano and sandstone intrusions, Boyadag anticline, western Turkmenistan. International Meeting of Sedimentology, 10-12 October, Toulouse, France.

#### **PALTSEVA**

- **Paltseva, A.,** Cheng Z., Deeb, M., Groffman, P. *Urban Garden Soil Contamination and Remediation in New York City*. Soil Science Society of America International Annual Meeting CrossDiv Symposium - Urban Soil Interpretation: Promoting Soil and Human Health (virtual), November 10, 2020
- **Paltseva, A.,** Mielke, H. *Comparison of Four Soil Lead (Pb) Analysis Methods and Advancing Primary Prevention*. Smart and Sustainable Cities International Conference (virtual). Moscow, Russia, July 9, 2020
- **Paltseva, A.** *Metal Soil Pollution Threat under Climate Change*. 2020 Northeast Regional Cooperative Soil Survey Virtual Conference “Soil – Our Common Wealth”. Virginia, June 23, 2020.
- **Paltseva, A.** *Collaboration of Science and Art Towards Better Food futures*. A Food for Future - Discussion and Livestream, Art Laboratory Berlin (virtual), June 4, 2020

#### **POUDEL**

- **Poudel, D.D.** Natural Resources Governance in Nepal, 15<sup>th</sup> Annual Himalayan Policy Research Conference (HPRC) (Virtual Conference), Sponsored by: Nepal Study Center (NSC), University of New Mexico, New Mexico, USA, December 5, 2020. (Virtual presentation) and Invited Panelist.
- **Poudel, D.D.** Asta-Ja for Environment and Prosperity, 2<sup>nd</sup> Global NRN Convention, Session 13: Sustainable Environment, Kathmandu, Nepal, October 11, 2020. (Virtual presentation) and Invited Panelist.
- **Poudel, D.D.,** Moktan, P.L. & Shrestha, P.L. Environmental community awareness and climate change initiatives, NRN NCC USA, KNOWLEDGE CONVENTION 2020 “Collaborate for Better Tomorrow”, July 4, 2020. NRNA NCC USA. (Virtual Presentation)
- **Poudel, DD,** Duex, T., Borrok, D. & Poudel, R. Hydrogeology and land-use effects on spring water properties in the mid-hill region of Nepal, ASA-CSSA-SSSA Annual Meeting, San Antonio, TX, ASA-CSSA-SSSA Annual Meeting, Nov. 10-13, 2019. (Poster presentation)
- **Poudel, D.D.** Agricultural and Natural Resources Development and Management Strategy (<https://youtu.be/M2AWEVxjekE>), Video Presentation. Invited Speaker, Agriculture and Food Security Symposium, 1<sup>st</sup> NRN Global Knowledge Convention, Kathmandu, Nepal, 12-14, October, 2018.
- **Poudel, D.D.** Agricultural and Natural Resources Development and Management Strategy, International Conference on Roles of Nepali Diaspora in Higher Education in Nepal, Organized by Global Policy Forum for Nepal (GPFN), Association of Nepal in the America (ANA), and Canada Foundation for Nepal (CFFN), Toronto, Canada, July 7 and 8, 2018. (Oral presentation)

- **Poudel, D.D.** Agricultural Development in Nepal: Challenges and Opportunities, NRNA ICC's Regional Expert Conference, San Francisco, California, USA, June 16-17, 2018. (Oral presentation)
- **Poudel, D.D.** Nepal Vision 2040: National Planning and Development, Association of Nepalese Agricultural Professionals of America (NAPA) First Biennial Conference, Oklahoma City, Oklahoma, USA, May 26-27, 2018. (Oral presentation)
- **Poudel, D.D.** Climate change is affecting small-holder farming system and water sources in the mid-hill region of Nepal, Research-Noon Seminar Series, East-West Center, Honolulu, Hawaii, USA, Thursday, March 8, 2018. (Oral) (Invited talk) Video: <https://www.eastwestcenter.org/events/climate-change-affecting-small-holder-farming-system-and-water-sources-in-the-mid-hill-region>
- Invited Speaker, National Disaster Recovery Framework Economic Recovery Support Function- Agriculture, Business, and Community Forum, Louisiana Economic Development and Acadiana Planning Commission, Wednesday, January 25, 2017, University of Louisiana at Lafayette LITE Center, 537 Cajundome Blvd., Lafayette, LA. Specialty Crops and DRA Assistance session. Title for the talk with PowerPoint presentation- Ira Nelson Horticulture Center and Specialty Crops in Southwestern Louisiana.
- 2nd SWCS International Annual Conference, July 30-August 2, 2017, Monona Terrace Convention Center, Madison, Wisconsin, USA. **Poudel, D.D.** 2017. Elevated Spring Turbidity Values in Bayou Chene, Louisiana: Causes and Consequences. (Poster).
- GSA South-Central Section Meeting, 13-14 March, 2017, San Antonio, Texas, The Geological Society of America. **Poudel, D.D.**, Challenges of improving surface water quality in Bayou Chene, Louisiana. (Oral).

## **RICHTER**

- Seminar lecture at University of New Orleans on 2/8/2017 "Chasing the Earth's magnetic field with a drill ship"
- Baton Rouge Geological Society: Luncheon Talk on September 8, 2017
- Louisiana State University (Wilbert Lecture): November 18, 2016)
- University of Louisiana at Lafayette (SIMM Seminar: February 16, 2016)

## **SCHUBERT**

- **Schubert, BA** and Jahren, AH. 2019. "Using tree rings to quantify 100 years of photorespiration decline," American Geophysical Union Fall Meeting.
- **Schubert, BA** and Jahren, AH. 2019. "Using C3 plant remains to quantify atmospheric CO2 in the fossil record," American Geophysical Union Fall Meeting.
- Schubert, BA, and Jahren, AH, 2019. "Demonstration of the C3 plant proxy: Controlled growth chambers to deep-time applications," Geological Society of America Annual Meeting, Phoenix, AZ.
- **Schubert, BA**, Moore, CS, Jahren, AH, Zimov, N, Zimov, SA, 2018. "Monthly temperature reconstruction for a ~3,000 year-old Arctic site using fossil wood," American Geophysical Union Fall Meeting, Washington, DC.
- **Schubert, BA** and Jahren, AH. 2017. "Seasonal climate profiles of an ice-free Arctic based on intra-ring analyses of  $\delta^{18}\text{O}$  value in fossil wood," American Geophysical Union Fall Meeting, New Orleans, LA.

- Jahren, AH and Schubert, BA. 2017. "The interrelationship of pCO<sub>2</sub>, soil moisture content, and biomass fertilization expressed in the δ<sup>13</sup>C value of C<sub>3</sub> plant tissue," American Geophysical Union Fall Meeting, New Orleans, LA.
- **Schubert, BA** and Cui, Y. 2016. "Atmospheric carbon dioxide persisted at near modern levels before and after the PETM," American Geophysical Union Fall Meeting (invited, pdf).
- **Schubert, BA** and Jahren, AH. 2016. "Combined and isolated effects of pCO<sub>2</sub> and soil water content on carbon isotope discrimination during C<sub>3</sub> photosynthesis," American Geophysical Union Fall Meeting.
- University of Texas, Jackson School of Geosciences, DeFord Lecture, November 2, 2017.
- University of Texas, Jackson School of Geosciences, Paleontology Brown Bag, November 2, 2017.
- University of Louisiana at Lafayette, College of Sciences, SIMM, March 21, 2017.
- Invited seminar, Pacific Islands Climate Change Cooperative.
- Invited seminar, University of Southern Mississippi, Department of Geography and Geology.
- Invited seminar, University of Florida, Department of Geological Sciences.

## VILLA

- **Villa, J.A.** *Partitioning methane emission pathways in ecohydrological patches of a freshwater marsh: Implications for functional wetland restoration on the coast of Lake Erie. Biology Colloquium, Department of Biology - University of Louisiana.* Lafayette, LA, 02/2020.
- **Villa, J.A.** *Wetlands, methane, and climate change: Moving beyond the single patch-type denomination in wetland models. Science Interdisciplinary Monthly Meeting, College of Sciences - University of Louisiana.* Lafayette, LA, 11/17/2020.
- **Villa, J.A.**, Ju, Y., Yazbeck, T., Waldo, S., Wrighton, K.C., Bohrer, G. *Methane diffusion and ebullition from ecohydrological patches in a freshwater estuarine marsh: Underscoring the spatial heterogeneity of methane fluxes within wetland ecosystems.* American Geophysical Union Fall Meeting. Online Everywhere, 12/10/2020.
- Rodríguez-Ramos, J.A., Borton, M., Smith, G., McGivern, B.B., Solden, L.M., Graham, E.B., **Villa, J.A.**, Nelson, W.C., Song, H.S., Purvine, S., Nicora, C., Daly, R., Lipton, M.S., Hoyt, D.W., Bohrer, G., Stegen, J., Wrighton, K.C. *The tale of a microbial community and its infective agents: Microbial and viral interactions flues carbon and nitrogen cycling in the hyporheic zone of the Columbia River. Poster.* American Geophysical Union Fall Meeting. Online Everywhere, 12/10/2020.
- Morin, T.H., Riley, W.J., Grant, R.F., Mekonnen, Z.A., Stefanik, K.C., Rey-Sanchez, C., Mulhare, M., **Villa, J.A.**, Wrighton, K.C., Bohrer, G. *Wetland water level projected to control 21<sup>st</sup> century carbon and warming source/sink behavior at a temperate wetland. Poster.* American Geophysical Union Fall Meeting. Online Everywhere, 12/9/2020.
- Ju, Y., **Villa, J.A.**, Bohrer, G. *Quantification of methane emissions from different land-cover patches in a heterogenous wetland. Poster.* American Geophysical Union Fall Meeting. Online Everywhere, 12/11/2020.

## VISSER

- Landreneau, B. and **Visser J.**, 2016. The effect of flooding duration and height on *Spartina patens*. Poster presented at Gulf Estuarine Research Society, Society of Wetland Scientists-South Central and South Atlantic Chapters, Fall Meeting, Pensacola Beach, FL, November 3-5.
- Hester MW, Sloey TM., Willis JM, and **Visser JM.** 2016. Understanding Coastal Wetland Plant Responses to Flooding. State of the Coast Conference, New Orleans, LA June 1-3.
- **Visser JM.** 2016 Existing Diversion Impacts on Flooding and Plant Responses. State of the Coast Conference, New Orleans, LA June 1-3.
- 2016Duke-Sylvester SM, **Visser JM.**, and Baustian M. 2016. Modeling the Effect of Flooding on Wetland Vegetation, State of the Coast Conference, New Orleans, LA June 1-3.
- Meselhe E, Baustian M, Jung H, Sadid K, Xing F, Khadka A, Allison M, Duke-Sylvester S, **Visser J.**, Smith J, Jueken M, and Van Maren B. 2016. Mississippi River Hydrodynamic and Delta Management Study (MRHDM): Basin-Wide Delft3D Model Setup, Validation, and Application. State of the Coast Conference, New Orleans, LA June 1-3.
- White E, Meselhe E, T. Brown S, Couvillion B, Dong Z, Green M, Duke-Sylvester S, McCorquodale A, Rodrigue M, Schindler J, Thomson G, **Visser J.**, Wang J, Habib E, and Reed D. 2016. Integrated Compartment Model (ICM) Application: Scenarios, Uncertainties and Project Evaluations. State of the Coast Conference, New Orleans, LA June 1-3.
- Habib E, Deshotel M, Bodin M, Miller R, Meselhe E, Roth B, Williams D and **Visser J.** 2016 Unlocking the Educational Value of Louisiana Coastal Restoration: Development of Web-Based Active-Learning Modules for Undergraduate Education. State of the Coast Conference, New Orleans, LA June 1-3.
- **Visser, JM.**, Green M, Belhadjali K, and Reed D. Using Science in Coastal Restoration Planning: 20 Years of Experience. Coastal Estuarine Research Federation 23rd Biennial Conference, Portland OR, November 2015.
- Meselhe E, White E, Brown S, Couvillion B, Dong Z, Green M, Duke-Sylvester S, McCorquodale A, Rodrigue M, Schindler J, Thomson G, **Visser J.**, and Wang J. Coastal ecosystem integrated compartment model (ICM): modeling framework. Coastal Estuarine Research Federation 23rd Biennial Conference, Portland OR, November 2015.
- Duke-Sylvester S, **Visser J.**, and White E. LAVegMod: Modeling Long-term Coastal Vegetation Change at the Landscape Scale. Coastal Estuarine Research Federation 23rd Biennial Conference, Portland OR, November 2015.
- White E, Meselhe E, White E, Brown S, Couvillion B, Dong Z, Green M, Habib E, Duke-Sylvester S, McCorquodale A, Reed D, Schindler J, Thomson G, and **Visser J.** Integrated Compartment Model (ICM) application: scenarios, uncertainties and project evaluations. Coastal Estuarine Research Federation 23rd Biennial Conference, Portland OR, November 2015.
- Jarrell E, Meselhe E, Baustian M, Jung H, Allison M, Reed D, Pahl J, Duke-Sylvester S, **Visser J.**, Smits J, Jueken M, and vanMaren B. Predictive Modeling for a Proposed Network of Diversion Projects across the South Louisiana Landscape. Coastal Estuarine Research Federation 23rd Biennial Conference, Portland OR, November 2015.
- Couvillion B, Hartley S, **Visser J.**, Beck H, and Maass A. Wetland vegetation community type change in coastal Louisiana from 1973-2013. Coastal Estuarine Research Federation 23rd Biennial Conference, Portland OR, November 2015.

- Meselhe E, White E, Brown S, Couvillion B, Dong Z, Green M, Duke-Sylvester S, McCorquodale A, Rodrigue M, Schindler J, Thomson G, **Visser J**, and Wang J. Coastal ecosystem integrated compartment model (ICM): modeling framework. AGU Fall Meeting, San Francisco CA, October 2015.

## WANG

- High-Resolution Regional Climate Projection Through an Ensemble Modeling Approach. Department of Physics, University of Louisiana at Lafayette, October 11, 2017.

## ZHANG

- 2020, University of Oklahoma
- 2019, Colorado School of Mines
- 2017, Zhejiang University
- 2017, BGP Inc.
- 2017, University of Chinese Academy of Sciences
- 2017, Institute of Geophysics, China Earthquake Administration
- 2017, China University of Petroleum Beijing
- 2017, Sinopec Tech Houston LLC
- 2016, Bureau of Economic Geology, University of Texas at Austin
- 2016, University of New Orleans

## Editorships

### Gottardi

- Editor and publisher, *Lafayette Geological Society Bulletin* (2018-Present).

### Borrok

- Editorial Board, *Chemical Geology*.
- Editorial Board, *Frontiers in Microbial Chemistry*.

### Poudel

- Editorial Advisory Board Member, *Agriculture, Ecosystems & Environment Journal*.
- Bhandari, M.P., Binda, J., **Poudel, D.D.**, Garner, S., Shvindina, H., & Bazargan, A. (eds). (2020). *Strategic Management of Sustainable Urban Development Economic Downturns, Metropolitan Governance and Local Communities*. River Publishers Series in Chemical, Environmental, and Energy Engineering.
- Bhandari, M.P., Binda, J., **Poudel, D.D.**, Garner, S., Shvindina, H., & Bazargan, A. (eds). (2020). *Getting the Climate Science Facts Right: The Role of the IPCC*. Akamai University, USA; Sumy State University, Ukraine; River Publishers Series in Chemical, Environmental, and Energy Engineering, River Publishers.
- Bhandari, M.P., Binda, J., Poudel, D.D., Garner, S., Shvindina, H., & Bazargan, A. (eds). (2020). *Green Web-II: Standards and Perspectives from the IUCN Program/ Policy Development in Environment Conservation Domain with reference to India, Pakistan, Nepal, and Bangladesh: Second Edition*. River Publishers Series in Chemical, Environmental, and Energy Engineering, River Publishers.

## Zhang

- Deputy Associate Editor, *Interpretation*, 2016-Present

## Books and Book Chapters

### 2018

- Vasco, D.W., Bissell, R.C., Bohlooli, B., Daley, T.M., Ferretti, A., Foxall, W., Goertz-Allmann, B.P., Korneev, V., Morris, J.P., Oye, V., Ramirez, A., Rinaldi, A.P., A., Rucci, Rutqvist, J., White, J., & **Zhang, R.** (2018). Chapter 12: Monitoring and Modeling Caprock Integrity at the In Salah Carbon Dioxide Storage Site, Algeria. In: Vialle, S., Ajo-Franklin, J., & Carey, J.W. (eds). *Geological Carbon Storage: Subsurface Seals and Caprock Integrity, Geophysical Monograph Series*, **238**, 243-269. Hoboken, NJ: Wiley. doi:10.1002/9781119118657.ch12
- Cretini, K.F., Wood, W.B., **Visser, J.M.**, Krauss, K.W., Sharp, L.A., Steyer, G.D., Shaffer, G.P., & Piazza, S.C. (2018). Chapter 4.5.2 - Floristic Quality Index and Forested Floristic Quality Index: Assessment Tools for Restoration Projects and Monitoring Sites in Coastal Louisiana. In: Dorney, J, Savage, R., Tiner, R.W., & Adamus, P. (eds). *Wetland and Stream Rapid Assessments: Development, Validation, and Application*, 459-473. London: Academic Press. doi:10.1016/B978-0-12-805091-0.00049-9

### 2017

- **Costigan, K.H.**, Kennard, M.J., Leigh, C., Sauquet, E., Datry, T., & Boulton, A.J. (2017). Chapter 2.2 - Flow regimes in intermittent rivers and ephemeral streams. In: Datry, T., Bonada, N., & Boulton, A.J. (eds). *Intermittent Rivers and Ephemeral Streams: Ecology and Management*, 51-78. London: Academic Press. doi:10.1016/B978-0-12-803835-2.00003-6

### 2016

- Justic, D., Duke-Sylvester, S.M., **Visser, J.M.**, Xue, Z., Liang, J. (2016). Chapter 11: Coastal Ecosystem Modeling in the Context of Climate Change: An overview with case studies. In: Jørgensen, S. E. (ed). *Developments in Environmental Modeling, Ecological Model Types*, **78**, 227-260. Cambridge, MA: Elsevier. doi:10.1016/B978-0-444-63623-2.00011-6

## Other

### Organized Special Sessions or Conferences

#### 2018

##### Costigan

- Special Session Convener (with D. Allen, A. Ruhi, R. Mazon, and R. vander Vorste). S22: Transcending aquatic-terrestrial boundaries: ecology, conservation and management of temporary freshwaters. Society of Freshwater Science. Detroit, MI, May 2018.

##### Gottardi

- Advisor. American Association of Petroleum Geologists Imperial Barrel Award Competition. Won 1<sup>st</sup> place at the Regional and World Competition, 2018.
- Current President of the Lafayette Geological Society (2018-2019)

- President Elect of the Lafayette Geological Society (2017-2018)

#### **Hillman**

- Co-convener. AGU session Terrestrial Hydroclimate Variability in the Americas: Causes and Impacts based on Proxies and Models.

#### **Morra**

- Killion, K., Kumar, R., Taylor, C.J., **Morra, G.** Seismology and Volcanology: Exploration of Volcanoes, Long-Periods, and Machines-Predicting Volcano Eruption Using Signature Seismic Data. SMU Data Science Review, 2018.
- One oral presentation (first author) and three poster presentations (co-author). AGU Fall Meeting. Washington D.C.
- *Machine Learning Identification of Lava Lake Images of the Erebus Volcano, Antarctica*, Poster presentation. Workshop, Santa Fe, New Mexico.
- *Machine Learning Identification of Lava Lake Images of the Erebus Volcano, Antarctica*, Poster Presentation. Workshop, Princeton, NJ.

#### **Oppo**

- **Oppo, D.**, Hurst, A. *25k yr oil-mature source rocks, Lake Tanganyika: prospectivity perspectives*. 4<sup>th</sup> EAGE Eastern Africa Petroleum geoscience Forum. Nairobi, Kenya, December, 3-5.
- Che, M., Maselli, V., Moore, A., Mulaya, E., **Oppo, D.**, Tomioka A.\* *Stratigraphy of a tidal delta near Mbweni, Tanzania*. GSA Annual Meeting. Indianapolis, IN.
- Tomioka, A., Che, M.\*, Maselli, V., Moore, A., Mulaya, E., **Oppo D.** *SFM Sediment flux estimation on a tidal delta near Mbweni, Tanzania*. GSA Annual Meeting. Indianapolis, IN.
- **Oppo D.**, Manzari, M. Numerical modelling of mud volcanoes: how do mud chambers control surface fluid emissions? EGU General Assembly. April 8-13, Vienna, Austria.

#### **Schubert**

- Convener. Paleo-CO<sub>2</sub> reconstruction in the Phanerozoic. American Geophysical Union Fall Meeting, Washington, DC, 2018.

#### **Zhang**

- Best Paper Award in *Interpretation*.
- John E. and Joretta A. Chance Endowed Professorship

#### **2017**

#### **Zhang**

- Session Co-chair, From the Lithosphere to the Delta: Academic and Industry Geophysical Data to Address Scientific and Societal Issues Across the U.S. Gulf Coast and Beyond, AGU Annual Meeting, 2017
- Session Co-chair, Spectral Decomposition, SEG Annual Meeting, 2017

#### **2016**

#### **Poudel, Durga**

- Hosted 1 stakeholder's meeting for Bayou Chene Project in Jennings, Louisiana.

#### **Schubert, Brian**

- Convener. Interpretations of stable carbon isotope records in sedimentary systems. American Geophysical Union Fall Meeting, San Francisco, CA, 2016.



## 2015

### Lock, Brian

- Organized 2-day course in Seismic Interpretation for 40 students from UL, LSU, UA, UNO, USM, MSU, etc, with industry sponsors and instructors, January 2015.

### Schubert, Brian

- Convener. Interpretations of Stable Carbon Isotope Excursions in the Geologic Record, American Geophysical Union Fall Meeting, San Francisco, CA, 2015.

## 2014

### Richter, Carl

- Reviewer for *Earth, Science, and Space*.
- GCAGS 2014 Meeting Committee Chair.

### Schubert, Brian

- Convener. The Biogeochemistry of Biological Systems, Goldschmidt. Sacramento, CA, June 8-13, 2014.
- Conference organizer: International Program Committee Team Member, Biogeochemistry, 2014 Goldschmidt Conference.

### Visser, Jenneke

- Program Committee, 2014 State of the Coast Conference.

## 2013

- Organized a technical session on Water Sustainability. 2013 South Central GSA Meeting.
- Organized a technical session on transition metal isotope chemistry. 2013 Annual GSA Meeting.
- Co-hosted the session: The Role of the Geosciences in water Sustainability: Examples, Challenges and Societal Impacts. South Central Section - 47<sup>th</sup> Annual Meeting of GSA, Austin Texas, April 4-5, 2013.

## Awards and Honors

## 2018

### Ferré, Eric

- Recognized reviewer awards for manuscript reviews in 2018: *Lithos*, *Earth and Planetary Science Letters*, *Journal of Structural Geology*, and *Tectonophysics*.

### Hargrave, Jennifer

- 2017-2018 Award for Excellence in Student Advising.

### Hillman, Aubrey

- Mid-Winter Fair Endowed Professorship, 2018-2021

## **2017**

### **Poudel, Durga**

- Journal of Soil and Water Conservation 2017 Best Research Paper Award for Impact and Quality Honorable Mention In Recognition of the Impact and Quality of the Following Research Paper: Poudel, D.D., T. Lee, R. Srinivasan, K.C. Abbaspour, and C.Y. Jeong.

### **Zhang**

- Achievement in Sponsored Program, University of Louisiana at Lafayette

## **2016**

### **Borrok, David**

- Research and Sponsored Projects Award, UL Lafayette (for > \$150,000 in external funding).

### **Hillman, Aubrey**

- Certification of Excellence in Reviewing, Journal of Paleolimnology
- Ohio State University Byrd Polar and Climate Research Center Post-Doctoral Fellow

### **Poudel, Durga**

- Outstanding Achievement in Externally Funded Research Award (Intended to recognize those who have been awarded externally sponsored projects in an amount of \$500,000 or more during the 2014-2016 academic years).

### **Schubert, Brian**

- Rising Star Award, Ray P. Authement College of Sciences, University of Louisiana at Lafayette, Academic Years 2014-2016

## **2015**

### **Costigan, Katie**

- 2015-2016 LADIA Fellow

## **Other Accomplishments**

### **Borroch, David**

- Member, American Association of Petroleum Geologists.
- Member, Geological Society of America.
- Member, American Geophysical Union.
- Member, Geochemical Society.

### **Gottardi, Raphael**

- AGU member since 2010
- MSA member since 2009
- GSA member since 2008

**Kinsland, Gary**

- Geological Society of America
- AGU life member since early 70s
- SEG
- AAPG

**Lock, Brian**

- AAPG member
- SEPM member
- Lafayette Geological Society - Honorary Member
- IAS Member
- GCAGS, committee member and member of Board of Directors

**Poudel, Durga**

- Member - Geological Society of America (GSA) since March 2013
- Member - Soil and Water Conservation Society, USA, since 2002
- Member - Soil Science Society of America (SSSA), since January 15, 1998.

**Richter, Carl**

- R/V Pelican PE17-23. Gulf of Mexico, June 8- 17, 2017
- R/V JOIDES Resolution. Australia Cretaceous Climate and Tectonics. September 26- November 26, 2017
- President of the Southwest Louisiana Geophysical Society 2014 to Present

**Schubert, Brian**

- STEM Leadership Institute, Association of American Colleges and Universities, Project Kaleidoscope, 2018.

**Visser, Jenneke**

- Board Member, South Central Chapter of Society of Wetland Scientists since 2015
- Member, Society of Wetland Scientists.
- Member, Coastal and Estuarine Research Federation.
- Member, Ecological Society of America.

**Zhang, Rui**

- Member-American Geophysical Union
- Member-Society of Exploration Geophysicists
- Member-European Association of Geoscientists and Engineer



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**This report does not include the considerable committee and administrative services that our faculty members perform at UL Lafayette at the Department, College and University levels.**  
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