

2. Hao, N., Cao, J., Ye, J., **Zhang, C.**, Li, C., Zhan, L.T., and Bate, B., (accepted). (2020). Content and morphology of lead remediated by activated carbon and biochar: a spectral induced polarization study. *Journal of Hazardous Materials*.
3. Niu, Q., **Zhang, C.**, and Prasad, M. (2020). A framework for pore-scale simulation of electrical conductivity and permittivity of porous media in the frequency range from  $10^3$  Hz to  $10^9$  Hz. *Journal of Geophysical Research: Solid Earth*, 125, e2020JB020515. <https://doi.org/10.1029/2020JB020515>
4. Xu, Z., Shi, W., Zhai, G., Peng, N., & **Zhang, C.** (2020). Study on the characterization of pore structure and main controlling factors of pore development in gas shale. *Journal of Natural Gas Geoscience*. <https://doi.org/10.1016/j.jnggs.2020.09.003>
5. Sullivan, P\*, **Zhang, C\***, Behm, M., Zhang, F., Macpherson, G., (\*equal contribution, accepted). (2020). Towards a new conceptual model for groundwater flow in merokarst systems: Insights from multiple geophysical approaches. <https://doi.org/10.1002/hyp.13898>
6. Bate, B., Cao, J., **Zhang, C.**, and Na Hao. (2020). Spectral Induced Polarization Study on Enzyme Induced Carbonate Precipitations – Influences of Size and Content on Stiffness of a Fine Sand. *Acta Geotech.* (2020) <https://doi.org/10.1007/s11440-020-01059-8>
7. Bate, B., Cao, J., **Zhang, C.**, Hao, N. and Wang, S. (2020). Monitoring Lime and Cement Improvement by Spectral Induced Polarization and Bender Element Techniques. *Journal of Rock Mechanics and Geotechnical Engineering*. <https://doi.org/10.1016/j.jrmge.2020.06.005>
8. Wei, D., Gao, Z., Fan, T., **Zhang, C.**, & Tsau, J.-S. (2020). The rock-fabric/petrophysical characteristics and classification of the micropores hosted between the calcite and dolomite crystals. *Journal of Petroleum Science and Engineering*, 193, 107383. <https://doi.org/10.1016/j.petrol.2020.107383>
9. Goodner, H., Rankey, E., **Zhang, C.**, and Watney, L. (2020). Rock Fabric Controls on Pore Evolution and Porosity-Permeability Trends in Oolitic Grainstone Reservoirs and Reservoir Analogs. *AAPG Bulletin*, DOI: 10.1306/12191919046.
10. Wei, D., Gao, Z, **Zhang, C.**, Fan, T, Tsau, J-S. (2019). Characterization of the deeply buried microporous limestone: Case study from the Shunnan area, Tarim Basin, NW China. *Geological Journal*. 2019; 1– 16. <https://doi.org/10.1002/gj.3709>
11. Bode, I. Y., **Zhang, C.**, Vanden Berg, B., & Grammer, G. M. (2019). Multiscale Imaging and Nuclear Magnetic Resonance Pore Characterization in Unconventional Carbonate Mudrocks of the Southern Midcontinent (USA): Mississippi Lime Play. *Journal of Sedimentary Research*, 18(2), 196–219. <https://doi.org/10.2110/sepm.112.11>
12. Kessouri, P., Furman, A., Huisman, J. A., Martin, T., Mellage, A., Ntarlagiannis, D., Bücker, M., Ehosioke, S., Fernandez, P., Flores-Orozco, A., Kemna, A., Nguyen, F., Pilawski, T., Saneiyan, S., Schmutz, M., Schwartz, N., Weigand, M., Wu, Y., **Zhang, C.**, and Placencia-Gomez, E., (2019). Induced polarization applied to biogeophysics: recent advances and future prospects. *Near Surface Geophysics*, nsg.12072. <http://doi.org/10.1002/nsg.12072>.
13. Nie, X., **Zhang, C.**, Wang, C., Nie, S., Zhang, J., and Zhang, C.M (2019). Variable secondary porosity modeling of carbonate rocks based on  $\mu$ -CT images. *Open Geosciences*, 11(1), pp. 617-626. doi:10.1515/geo-2019-0049
14. Peng, L., **Zhang, C.**, Zhang, F., Ma, H., and Pan, H., (2019). Estimating irreducible water saturation and permeability of sandstones from nuclear magnetic resonance measurements by fractal analysis. *Marine and Petroleum Geology*. 110, 565–574. <http://doi.org/10.1016/J.MARPETGEO.2019.07.037>
15. Mahdi, A.-N., A., T. G., Jie, H., L., P. R., & **Zhang, C.**, (2019). Development of Laboratory Procedure for Evaluating Microcracking Technology on Cement-Modified Soil Subgrade. *Journal of Materials in Civil Engineering*, 31(12), 6019015. [http://doi.org/10.1061/\(ASCE\)MT.1943-5533.0002982](http://doi.org/10.1061/(ASCE)MT.1943-5533.0002982)
16. Jian, J., **Zhang, C.**, Wang, F., Lu, X., Wang, F., and Zeng, E. Y. (2019). Effect of solution chemistry and aggregation on adsorption of perfluorooctanesulphonate (PFOS) to nano-sized alumina. *Environmental Pollution*, 251, 425–433. <http://doi.org/10.1016/J.ENVPOL.2019.05.025>

17. **Niu, Q.** and **Zhang, C.**, (2019). Permeability Prediction in Rocks Experiencing Mineral Precipitation and Dissolution: A Numerical Study. *Water Resources Research*. 55. <https://doi.org/10.1029/2018WR024174>
18. **Wei, D.**, **Gao, Z.**, **Zhang, C.**, **Fan, T.**, **Karubandika, G.**, and **Meng, M.**, (2019). Pore characteristics of the carbonate shoal from fractal perspective. *Journal of Petroleum Science and Engineering*. 174. <https://doi.org/10.1016/j.petrol.2018.11.059>
19. **Mao, D.**, **Liu, Z.**, **Wang, W.**, **Li, S.**, **Gao, Y.**, **Xu, Z.**, and **Zhang, C.**, (2018). An application of hydraulic tomography to a deep coal mine: Combining traditional pumping tests with water inrush incidents. *Journal of Hydrology*, 567(May), 1–11. <https://doi.org/10.1016/j.jhydrol.2018.09.058>.
20. **Niu, Q.** and **Zhang, C.**, (2018). Physical explanation of Archie's porosity exponent in granular materials: a process-based, pore-scale numerical study. *Geophysical Research Letters*. 45. <https://doi.org/10.1002/2017GL076751>
21. **Niu, Q.** and **Zhang, C.**, (2018). Joint inversion of NMR and SIP data to estimate pore size distribution of geomaterials. *Geophysical Journal International*. Volume 212, Issue 3, 1 March 2018, Pages 1791–1805, <https://doi.org/10.1093/gji/ggx501>
22. **Niu, Q.** and **Zhang, C.**, (2017). Pore-scale modeling of complex conductivity of saturated granular materials. *Near Surface Geophysics Special Issue on Induced Polarization*. 15(6), pp. 593-602. doi:[10.3997/1873-0604.2017055](https://doi.org/10.3997/1873-0604.2017055)
23. (invited, in Chinese) **Zhang, C.** and **Dong, Y.**, 2015, Biogeophysics: geophysical characterization of biogeochemical processes in the subsurface, *Chinese Journal of Geophysics*, 2015,58(8):2718-2729. doi: 10.6038/cjg20150809. <http://www.geophy.cn/EN/Y2015/V58/I8/2718>
24. **Lu, C.**, **Zhang, C.**, **Huang, H.**, and **Johnson, T.**, 2015, Monitoring CO<sub>2</sub> sequestration into deep saline aquifer and associated salt intrusion using coupled multiphase flow modeling and time-laps electrical resistivity tomography, *Greenhouse Gas Sci Technol*, 5: 34–49. <https://doi.org/10.1002/ghg.1437>
25. **Zhang, C.**, **Revil, A.**, **Fujita, Y.**, **Munakata-Marr, J.**, and **G. Redden**, 2014, Quadrature conductivity: a quantitative indicator of bacterial abundance in porous media, 79(6), D363-D375. *Geophysics*. <https://doi.org/10.1190/geo2014-0107.1>
26. **Redden, G.**, **Fox, D.**, **Zhang, C.**, **Fujita, Y.**, **Guo, L.**, and **Huang, H.**, 2013, CaCO<sub>3</sub> Precipitation, Transport and Sensing in Porous Media with In Situ Generation of Reactants, *Environmental Science & Technology* 2014 48 (1), 542-549. DOI: 10.1021/es4029777. <https://pubs.acs.org/doi/abs/10.1021/es4029777>
27. **Zhang, C.**, **Slater, L.**, **Redden, G.**, **Fujita, Y.**, **Johnson, T.**, and **Fox, D.**, 2012, Spectral induced polarization signatures of hydroxyl adsorption in porous media, *Environmental Science & Technology* 2012 46 (8), 4357-4364. DOI: 10.1021/es204404e. <https://pubs.acs.org/doi/abs/10.1021/es204404e>
28. **Zhang, C.**, **Slater, L.**, and **Prodan, C.**, 2012, Complex dielectric properties of sulfate-reducing bacteria suspensions, *Geomicrobiology Journal*, 30 (6). <https://doi.org/10.1080/01490451.2012.719997>
29. **Revil, A.**, **Atekwana, E.**, **Zhang, C.**, **Jardani, A.**, and **Smith, S.**, 2012, A new model for the spectral induced polarization signature of bacterial growth in porous media, *Water Resources Research*, 48, W09545. <https://doi.org/10.1029/2012WR011965>
30. **Zhang, C.**, **Ntarlagiannis, D.**, **Slater, L.**, and **Doherty, R.**, 2010, Monitoring microbial sulfate reduction in porous media using multi-purpose electrodes, *J. Geophys. Res.* 115, G00G09. <https://doi.org/10.1029/2009JG001157>
31. **Slater, L.**, **Ntarlagiannis, D.**, **Yee, N.**, **O'Brien, M.**, **Zhang, C.**, and **Williams, K.H.**, 2008, Electrode voltages in the presence of dissolved sulfide: Implications for monitoring natural microbial activity, *Geophysics*, 73, F65 (2008). <https://doi.org/10.1190/1.2828977>
32. **Li, Y.**, **Xia, B.**, **Xie, X.**, and **Zhang, C.**, 2007, Dynamic rules for some environmental factors in the simulative experiment of phosphorus exchange at sediment-water interface, *Acta Scientiarum Naturalium Universitatis Sunyatseni*, 2007, 3(027).

### PEER-REVIEWED EXPANDED CONFERENCE PROCEEDINGS (advisee authors are underlined)

1. Liu, S., Zhang, C., and Barati, R., (2019) Fast estimation of permeability in sandstones by 3D convolutional neural networks. SEG Technical Program Expanded Abstracts 2019.
2. Cudjoe, S., Oraki, I., Barati R., Tsau, J., and Zhang, C., (2019) NMR estimation of petrophysical properties and evaluation of hydrocarbon huff-n-puff gas injection in lower Eagle Ford shale oil samples, Unconventional Resources Technology Conference (URTEC).
3. Cao J., Zhang C., Bate B. (2019) Complex Conductivity and Shear Wave Velocity Responses of Sand-Calcite Mixture. In: Zhan L., Chen Y., Bouazza A. (eds) Proceedings of the 8th International Congress on Environmental Geotechnics Volume 3. ICEG 2018. Environmental Science and Engineering. Springer, Singapore. [https://doi.org/10.1007/978-981-13-2227-3\\_40](https://doi.org/10.1007/978-981-13-2227-3_40).
4. (invited) Zhang, F., Niu, Q., and Zhang, C., (2018). Estimating pore-size distribution in carbonate reservoir rocks using joint inversion of NMR and complex conductivity data. SEG Technical Program Expanded Abstracts 2018: pp. 4909-4913.
5. Zhang, F. & Zhang, C., (2017) Pore-structure characterization by combined laboratory nuclear magnetic resonance and spectral induced polarization: A case study of Kansas carbonates. SEG expanded abstract.
6. Zhang, F., Zhang, C., & Doveton, J., (2017) Application of NMR Logging Data in Carbonate Reservoir Characterization -An Example of Arbuckle Group Dolomite, Kansas. SEG expanded abstract.

### BOOK CHAPTERS

1. (invited) Pan, Y., Ren, W., and Zhang, C., Experimental setup, materials, and methods in Biogeophysics research, (Book Chapter), Deep subsurface biosphere strategic plan and report, edited by Chinese Academy of Science (in Chinese).

### INVITED SEMINARS

48. Dept. of Geophysics and Planetary Sciences, School of Earth and Space Sciences, University of Science and Technology of China, China. Dec. 2020  
“*Probing water distribution in carbonate rocks – a critical zone geophysical perspective*”
47. College of Petroleum Engineering, China University of Petroleum. Nov. 2020  
“*Hydrogeophysical investigations in carbonate rocks*”
46. Instituto de Astronomia, Geofísica e Ciências Atmosféricas, University of São Paulo. Nov. 2020  
“*Probing water distribution in carbonate rocks – a critical zone geophysical perspective*”
45. School of Engineering, Shandong University, China. Oct. 2020  
“*Hydrogeophysical investigations of merokarst aquifers in the Flint Hill, Kansas*”
44. Dept. of Geophysics, Jilin University, China. Aug. 2020  
“*Hydrogeophysical investigations of merokarst aquifers in the Flint Hill, Kansas*”
43. 2020 SEG Workshop on Underground Water and Karst Imaging, Sep. 2020  
“*Hydrogeophysical investigations of merokarst aquifers in the Flint Hill, Kansas*”
42. Faculty of Earth Sciences, Geography and Astronomy, University of Vienna, Austria. Mar. 2020.  
“*Hydrogeophysics in carbonate critical zone*”
41. School of Water Resources & Environment, China University of Geosciences (Beijing), China. Nov. 2019.  
“*Understanding subsurface fluid flow and rock-fluid interactions – A geophysical perspective*”
40. College of Civil Engineering and Architecture, Zhejiang University, China. Nov. 2019.

- “Understanding subsurface fluid flow and rock-fluid interactions – A geophysical perspective”  
39. National Engineering Research Center of Coal Mine Water Hazard Controlling, Suzhou, China. Nov. 2019.
- “Understanding subsurface fluid flow and rock-fluid interactions – A geophysical perspective”  
38. School of Geosciences, University of Aberdeen, United Kingdom. Aug. 2019.
- “Understanding subsurface fluid flow and rock-fluid interactions – A geophysical perspective”  
37. Department of Geology, California State University – Bakersfield, Bakersfield, CA. Feb. 2019.
- “Geophysical investigation of pore structure and flow properties in carbonate rocks”  
36. Faculty of Earth Sciences, Geography and Astronomy, University of Vienna, Austria. Dec. 2018.
- “Using geophysical tools to characterize pore structure and flow properties in carbonate rocks”  
35. Dept. of Geophysics, Colorado School of Mines, Golden, CO. Oct. 2018.
- “Characterizing pore structure and flow properties in carbonate rocks”  
34. Institute of Rock and Soil Mechanics, Chinese Academy of Sciences, Wuhan, China. Jun. 2018.
- “Characterizing pore structure and flow properties in subsurface”  
33. School of Resources, China University of Geosciences (Wuhan), Wuhan, China. Jun. 2018.
- “Using geophysical tools to characterize pore structure and flow properties in carbonate reservoir rocks”  
32. Southwest Petroleum University. Chengdu, China. May 2018.
- “Using electrical geophysics and nuclear magnetic resonance to study carbonate pore structure”  
31. Dept. of Geophysics and Planetary Sciences, School of Earth and Space Sciences, University of Science and Technology of China, Hefei, China. Apr. 2018.
- “Characterizing pore structure and flow properties in subsurface”  
30. Institute of geology and geophysics, Chinese Academy of Sciences, Beijing, China. Apr. 2018.
- “Geophysical Characterization of Biogeochemical Processes in the Subsurface”  
29. School of Energy Resources, China University of Geosciences (Beijing), Beijing, China. Apr. 2018.
- “Using geophysical tools to characterize pore structure and flow properties in carbonate reservoir rocks”  
28. PetroChina Hangzhou Research Institute of Geology, Hangzhou, China. Apr. 2018.
- “Monitoring and characterizing carbonate cementation and dissolution using geophysical tools and digital rock physics”  
27. Invited speaker, CPS/SEG Beijing 2018 International Geophysical Conference and Exposition, Beijing, China. Apr. 2018.
- “Revisiting Archie’s Porosity Exponent – experimental observation and pore-scale numerical simulation”  
26. Digital Rock Physics Workshop - Annual Review Meeting of the Kansas Interdisciplinary Carbonates Consortium (KICC), Lawrence, KS. Mar. 2018.
- “Characterization of pore structure in carbonate rocks using geophysical tools - a multi-scale integrated approach”  
25. Dept. of Geology, Kansas State University. Mar. 2018.
- “Using geophysical tools to characterize pore structure and flow properties in subsurface”  
24. Ali I. Al-Naimi Petroleum Engineering Research Center, Recovery of Difficult Hydrocarbons, King Abdullah University of Science and Technology, Saudi Arabia. Feb. 2018.
- “Using electrical geophysics and NMR to study carbonate pore structure - failures and lessons”  
23. Energy and Environmental Center, Missouri University of Science & Technology, Rolla, Missouri. Jan. 2018.
- “Characterizing pore structure and flow properties in subsurface”

22. School of Geology and Geophysics, University of Oklahoma, Norman, Oklahoma. Dec. 2017.  
“Characterizing pore structure and flow properties in subsurface”  
“Introduction to Hydrogeophysics”
21. 2017 SEG Carbonate Reservoir E&P Workshop, Chengdu, China. Oct. 2017.  
“Understanding pore structure in carbonate reservoir rocks using geophysical measurements and digital rock physics”
20. College of Petroleum Engineering and Geosciences, King Fahd University of Petroleum & Minerals, Saudi Arabia. Oct. 2017  
“Understanding Enhanced Calcite Precipitation in Porous Media Using Geophysical Methods – Measurements and Modeling”
19. Applied Geophysics and Geothermal Energy, RWTH Aachen University, Aachen, Germany. Sep. 2017.  
“Characterization of carbonate pore systems using NMR and SIP - measurements and modeling”
18. PetroChina Research Institute of Petroleum Exploration & Development-Northwest (NWGI), PetroChina, Lanzhou, China. Jul. 2017.  
“Digital rock physics in carbonates – modeling and measurements”
17. PetroChina Southwest Oil & Gasfield Company, E&P institute, Chengdu, China. Jun. 2017.  
“Carbonate petrophysics – measurements, interpretation, and modeling: an example of Kansas carbonate characterization at both laboratory and well-logging scale”
16. School of Civil Engineering, Shandong University, Jinan, China. Jun. 2017.  
“Carbonate petrophysics – measurements, interpretation, and modeling: an example of Kansas carbonate characterization at both laboratory and well-logging scale”
15. PetroChina Hangzhou Research Institute of Geology, Hangzhou, China. May 2017.  
“Carbonate petrophysics – measurements, interpretation, and modeling: an example of Kansas carbonate characterization at both laboratory and well-logging scale”
14. School of Earth Sciences, Zhejiang University, Hangzhou, China. May 2017.  
“Carbonate petrophysics – measurements, interpretation, and modeling: an example of Kansas carbonate characterization at both laboratory and well-logging scale”
13. Faculty of Earth Resources, China University of Geosciences (Wuhan), Wuhan, China. May 2017.  
“Carbonate petrophysics – measurements, interpretation, and modeling: an example of Kansas carbonate characterization at both laboratory and well-logging scale”
12. School of Environment Science and Engineering, Sun Yat-sen University, Guangzhou, China. Jun. 2016.  
“Geophysical Characterization of Hydrological and Biogeochemical Processes in the Subsurface”
11. School of Environment, Jinan University, Guangzhou, China. Jun. 2016.  
“Geophysical Characterization of Hydrological and Biogeochemical Processes in the Subsurface”
10. Dept. of Geology, Oklahoma State University, Stillwater, Oklahoma. Dec. 2015.  
“Linking nuclear magnetic resonance (NMR) measurements to microbial and hydrogeological processes”
9. Dept. of Geography & Atmospheric Science, University of Kansas, Lawrence, Kansas. Oct. 2015.  
“Fundamentals of nuclear magnetic resonance (NMR) in geophysics”
8. Dept. of Civil, Environmental & Architectural Engineering, University of Kansas, Lawrence, Kansas. Apr. 2015.  
“Geophysical Characterization of Hydrological and Biogeochemical Processes in the Subsurface”
7. Dept. of Geology, University of Kansas, Lawrence, Kansas. Apr. 2014.  
“Geophysical Characterization of Hydrological and Biogeochemical Processes in the Subsurface”
6. Nano-Science Center, University of Copenhagen, Copenhagen, Denmark. Dec. 2013.  
“Geophysical Signatures of Biogeochemical Processes in the Earth”

5. School of Geosciences & Info-Physics, Central South China University, Changsha, China. Sep. 2013.  
“Geophysical Signatures of Biogeochemical Processes in the Earth”
4. Institute of Geophysics & Geomatics, China University of Geosciences, Wuhan, China. Sep. 2013.  
“Geophysical Signatures of Biogeochemical Processes in the Earth”
3. Dept. of Environmental Science, Sun Yat-sen University, Guangzhou, China. Sep. 2013.  
“Geophysical Signatures of Biogeochemical Processes in the Earth”
2. Idaho National Laboratory, Idaho, US. Feb. 2010.  
“Electrical Geophysical Signatures of Microbial Processes”
1. Dept. of Environmental Science, Sun Yat-sen University, Guangzhou, China. Sep. 2010.  
“Electrical Geophysical Signatures of Microbial Processes”

## HONORS & AWARDS

KU College of Liberal Arts and Sciences J. Michael Young Academic Advisor	May 2018
Award for exemplary advising of undergraduate students	
Featured in SEG Near Surface newsletter 'Near Surface Views'	2016 Q3
Dissertation Fellowship, Rutgers University	2010
Graduate Student Excellence Award, Rutgers University	2010
Academic Advancement Scholarship, Sun Yat-sen University	2005

## ADVISING EXPERIENCE

### University of Kansas

#### a. Postdoc advisee

##### Past:

- Dr. Qifei Niu (Sep. 2016 – Aug. 2018). Current position: Assistant Professor at Boise State University.

Topic: Numerical simulation of electrical geophysical responses in porous media

#### b. Thesis advisee

#### PhD advisee

##### Current:

- Fan Zhang (fall 2015 – present)

Thesis: Using nuclear magnetic resonance to investigate hydrogeological properties of merokarst system at konza prairie, kansas

##### Awards:

- Society of Petrophysicists and Well Log Analysts Foundation for the 2018-2019 academic year Grant and Scholarship (\$5,000)
- 2018 CUAHSI Instrumentation Discovery Travel Grant (\$1,000)
- KU Geology Department 2018 summer fellowship (\$2,000)
- KU Geology Department 2017 summer fellowship
- GSA 2017 Graduate Student Research Grant Recipient (\$1,650)
- 2017 AGU travel award (\$500)
- AAPG 2016 Jon R. Withrow Named Grants Recipient (\$2,000)
- KU Geology Department 2016 summer fellowship
- Siyan Liu (fall 2018 – present). Co-advise with Dr. Reza Barati from Dept. of Chemical and Petroleum Engineering.

Thesis: Lattice-Boltzmann method-based pore-scale multi-phase reactive transport modeling of mechanistic study of low salinity waterflooding in carbonates reservoir rocks

*Awards:*

- GSA 2019 Graduate Student Research Grant Recipient (\$5,000)
- William Swanson (fall 2019 – present)

Thesis: Simulating geophysical responses during calcite precipitation and dissolution

*Awards:*

- AAPG 2020 Charles B. and Marilyn C. Fritz Memorial Grants Recipient (\$1,250)
- GSA 2020 Graduate Student Geoscience Grant and Geoinformatics and Data Science Student Research Grant

## Masters advisee

*Current:*

- Haozhe Zhang (spring 2019 – present)

Thesis: Monitoring calcite precipitates dynamics on aragonite using geophysical methods at column scale.

*Awards:*

- AAPG 2020 Thomas A. Hendricks Memorial Grant Recipient (\$2,500)
- Kansas Geological Foundation
- KU Graduate Student Travel Fund

*Past:*

- James Colgin (graduated Fall 2018)

Thesis: Simulating complex conductivity in carbonate rocks: using digital carbonate rocks and comparison to laboratory measurements

*Awards:*

- AAPG 2017 Richard C. Hasson Memorial Grants Recipient (\$2,000)
- Society of Petrophysicists and Well Log Analysts Foundation Grant and Scholarship (\$7,500)
- 2017 AGU travel award
- KU Dept. of Geology Haworth Award
- Yuri Rupert (Fall 2014 – Fall 2015)

*Awards:*

- KU Geology Department 2015 summer support

## Undergraduate advisee

*Past:*

- Connor Armstrong (Undergraduate student, Fall 2017 – Summer 2018)

*Awards:*

- Selected as one of 5 KU undergraduate students to present the research on 'Near Surface Geophysical Monitoring of Organic Contaminants' to legislators and other members of state government at the Capitol on February 14, 2018.

## c. Visiting PhD advisee

*Current:*

*Past:*

- Ling Peng (China University of Geosciences, Wuhan) Sep. 2018 – July 2020

*Awards:*

- AAPG 2018 Grants-in-Aid General Fund (\$1,750), endorsed by KU.

- Society of Petrophysicists and Well Log Analysts Foundation for the 2018-2019 academic year Grant and Scholarship (\$5,500), endorsed by KU.
- Quanqin Dai (China University of Petroleum, Beijing) Dec. 2019 – Dec. 2020
- Duan Wei (China University of Geosciences - Beijing) Sep. 2018 – Oct. 2019
- Hanbo Chen (Jilin University) Sep. 2018 – Sep. 2019
- Zhuang Xu (China University of Geosciences, Wuhan) Aug. 2017 – Sep. 2018
- Yicun Wang (Jilin University) Nov. 2016 – Nov. 2017

#### d. Thesis committee member

- Doctoral students:
  - Mohammed Ali Alqattan (KU Dept. of Geology). 2017 Fall – present.
  - George Tannoury (KU Dept. of Civil, Environmental and Architectural Engineering). Graduated Dec 2019.
  - Mahdi Al-Naddaf (KU Dept. of Civil, Environmental and Architectural Engineering). Graduated Jun. 2019
  - Ibukun Bode Omeleye (Oklahoma State University Dept. of Geology). 2015 Fall – present.
  - Maden Neupane (KU Dept. of Civil, Environmental and Architectural Engineering). Graduated May 2018.
- Masters students:
  - Michelle Proulx (KU Dept. of Geology). 2018 Fall – present.
  - Morgan Okeson (KU Dept. of Geography & Atmospheric Science. 2016 Fall – present.
  - Joseph Francis Orso (KU Dept. of Geology). Graduated 2019 Fall.
  - John Intfen (KU Dept. of Geology). Graduated 2019 Summer.
  - Hamilton Goodner (KU Dept. of Geology). Graduated 2018 Fall.
  - Hannah Hubert (KU Dept. of Geology). Graduated 2017 Summer.
  - Katherine Kuklewicz (KU Dept. of Geology). Graduated 2017 Spring.

### TEACHING EXPERIENCE

#### a. University of Kansas

##### *Lecturer*

- Environmental Geology (GEOL 351) Spring 2015, 2017, 2018, Fall 2019, 2020
- Hydrogeophysics (GEOL 791) Fall 2015, 2017, 2018, 2019
- Environmental Geophysics (GEOL 577) Fall 2016

#### b. Rutgers University – Newark

##### *Laboratory Instructor*

- Planet Earth Laboratory Fall 2006, 2007, 2008, and 2009
- Environmental Geology Laboratory Spring 2007, 2008, 2009, and 2010

### PROFESSIONAL SERVICE

#### a. External Service (committee)

- AGU Near Surface Geophysics Section President-elect, 2021 - 2022
- AGU/SEG Cooperation Committee Chair, 2017 - 2020
- SEG Near Surface Technical Section Strategic Planning committee, 2016 – present
- AGU Near Surface Focus Group Elected Secretary, 2017- 2019 term
- AGU-SEG Collaboration Committee, 2016 – present
- AGU Hydrogeophysics Technical Committee, 2011 – 2018



### b. External Service (scientific conference organizer)

- 2021 EGU Petrophysics and Rock Physics session chair (EMRPI.15)
- 2020 InterPore minisymposium chair
- 2019 SEG Geophysics for Smart City Development Workshop - Technical Committee
- SEG | EAGE Workshop: Geophysical Aspects of Smart Cities - Technical Committee
- Organizing committee for 2018 Conferences for Undergraduate Women in Physics (CUWiP)
- 5<sup>th</sup> international induced polarization workshop technical program committee
- SAGEEP 2018 conference technical program committee
- Convener for session at SAGEEP meeting – 2015 Convener for sessions at AGU Fall meetings – since 2014 (1 to 2 sessions per year)
- Convener for session at SEG annual meeting – 2017, 2018, and 2020 (special session: Hydrogeophysics)

### c. Editorial Work

- **Associated Editor:** *Geophysics*, since 2020
- **Guest Editor:**
  - The special issue of *Interpretation* in 2015 - Characterization and monitoring of subsurface contamination
  - The special issue of *The Leading Edge* in 2020 – Smart city geophysics
- **Review Editor:** *Water and Critical Zone*

### d. Internal Service (University of Kansas)

- Dept. of Geology Graduate Admission Committee, University of Kansas, 2015 - present.
- Center for Teaching Excellence Faculty Ambassador, 2017 - present
- Dept. of Geology Self Fellow recruitment coordinator, fall 2016 – 2018.
- Dept. of Geology University Core Coordination committee, University of Kansas, 2015 – 2017.

### e. External Service (Referee) (Average 7 - 10 manuscripts/year)

- **Journals:** *Geophysics*, *Geophysical Journal International*, *Journal of Geophysical Research - Biogeosciences*, *Water Resources Research*, *Geophysical Research Letters*, *Journal of Applied Geophysics*, *Journal of Environmental & Engineering Geophysics*, *Journal of Petroleum Science and Engineering*, *Journal of Applied Geophysics*, *American Journal of Environmental Science*, *Chemosphere*, *Groundwater Monitoring & Remediation*, *Near Surface Geophysics*, *Hydrology and Earth System Sciences*
- **Book chapter:** *Treatise on Geophysics (Second Edition)*
- **Proposals:** National Science Foundation, Israel Science Foundation, American Chemical Society.

## PROFESSIONAL AFFILIATIONS

- American Geophysical Union (AGU)
- Society of Exploration Geophysicists (SEG)
- Environmental & Engineering Geophysical Society
- European Geosciences Union (EGU)
- Society of Core Analysis (SCA)
- Sigma Xi Honor Society
- Association for Women Geoscientists (AWG)
- Earth Science Women's Network (ESWN)

## OUTREACH ACTIVITIES

- SEG Application Exchange Guest Oct. 2020
- Nerd Nite Lawrence May 2019
- Lawrence Montessori Kindergarten Science teacher July 2018

## PROFESSIONAL DEVELOPMENT

- Participant: IRIS Urban Environmental Geophysics Course Planning Workshop, June 4<sup>th</sup> – 5<sup>th</sup>, Tampa, Florida.
- Participant: NSF Diversity, Equity, and Inclusion in the Earth and Environmental Sciences workshop, April 10-12, 2019, Chicago.
- OSHA HAZWOPER 24-Hour certificate, Mar. 2018
- Participant: Negotiating the Ideal Faculty Position workshop, Rice University, Sep. 2011.
- Participant: Preparing for an Academic Career in the Geosciences workshop (sponsored by the NSF-funded program On the Cutting Edge), University of Nebraska – Lincoln, Jun. 2011.
- Participant: ExxonMobil geophysical short courses “Multi-Disciplinary Subsurface Integration in Exploration and Production, from Plates to Pores”, Houston, Mar. 2009.

## CONFERENCE PRESENTATIONS (\*indicates oral presentation and advisee authors are underlined)

### a. First Author Presentations

1. \*(invited) **Zhang, C.**, Sullivan, P.L., Behm, M., Zhang, F., Macpherson, G.L., Tsoflias, G., Parsekian, A.D., Hydrogeophysical investigations of merokarst aquifers. 2020 SEG Workshop on Underground Water and Karst Imaging. Aug. 2020.
2. \*(invited) **Zhang, C.**, Sullivan, P.L., Behm, M., Zhang, F., Macpherson, G.L., Tsoflias, G., Parsekian, A.D., Hydrogeophysical investigations of merokarst aquifers in the Flint Hills, Kansas. AGU 2019 Fall meeting, Dec. 2019, H11D-03
3. **Zhang, C.** and Niu, Q., Evolution of porosity and permeability during carbonate precipitation. Annual Review Meeting of the Kansas Interdisciplinary Carbonates Consortium (KICC), Lawrence, KS. Apr. 2019.
4. **Zhang, C.** and Niu, Q., Evolution of porosity and permeability during carbonate precipitation. AGU 2018 Fall meeting, Dec. 2018, H11I-0557.
5. **Zhang, C.** and Jennings, J., Geophysical monitoring of organic contaminants in sediments. AGU 2016 Fall meeting, Dec. 2016, H13K-1565.
6. \***Zhang, C.**, Zhang, F., and Niu, Q., Estimate aquifer hydrogeologic properties using geophysical measurements. 2016 Governor’s Conference on the Future of Water in Kansas. Topeka, KS. Nov. 2016
7. \***Zhang, C.** Advancing geophysical monitoring of mineral precipitation and organic contaminants in porous media. The 2nd International Conference on Environmental Pollution and Health. Jun. 2016.
8. **Zhang, C.** and Jennings, J., Monitoring of organic contaminants in sediments using low field proton nuclear magnetic resonance. EGU 2016 General Assembly, Apr. 2016, EGU2016-5309, HS8.1.2.
9. \***Zhang, C.**, Revil, A., and Keating, K., Monitoring microbial growth and activity using spectral induced polarization and low-field nuclear magnetic resonance. EGU 2015 General Assembly, Apr. 2015, EGU2015-13709, HS8.1.6.
10. **Zhang, C.** and Keating, K., An investigation of the sensitivity of low-field nuclear magnetic resonance to microbial growth and activity. AGU 2014 Fall meeting, Dec. 2014, B33B-0170

11. **Zhang, C.**, Revil, A., Ren, Z., Karaoulis, M., and Mendonca, C. A., Self-potential and complex conductivity monitoring of in situ hydrocarbon remediation in microbial fuel cell. AGU 2013 Fall meeting, Dec. 2013, NS21B-1569.
12. \***Zhang, C.**, Revil, A., Ren, Z., Karaoulis, M., Mendonca, C.A., and Jin, S., Develop non-intrusive time-lapse geophysical techniques to monitor in situ hydrocarbon remediation in bioelectrochemical system. Battelle Bioremediation Symposium, Jun. 2013.
13. \***Zhang, C.** and Revil, A., Monitoring and modeling of spectral induced polarization signatures of bacteria growth in porous media. SAGEEP 2013, Mar. 2013.
14. **Zhang, C.**, Revil, A., Atekwana, E. A., Jardani, A., and Smith, S., A new model for the spectral induced polarization signature of bacterial growth in porous media. AGU 2012 Fall meeting, Dec. 2012, B11A-0405.
15. \***Zhang, C.**, Slater, L., Redden, G., Fujita, Y., Johnson, T., and Fox, D., Spectral induced polarization signatures of mineral precipitation and ion adsorption in porous media. SAGEEP 2012, Mar. 2012.
16. \***Zhang, C.**, Slater, L., Redden, G., Fujita, Y., Johnson, T., and Fox, D., Investigation of spectral induced polarization signatures of hydroxide adsorption and mineral precipitation in porous media. Second International Workshop on Induced Polarization in Near-Surface Geophysics, Nov. 2011.
17. **Zhang, C.**, Slater, L., Redden, G., Fujita, Y., Johnson, T., and Fox, D., Investigation of spectral induced polarization (SIP) signatures of hydroxide adsorption and mineral precipitation in porous media. DOE-SBR 6th Annual PI meeting, Apr. 2011.
18. **Zhang, C.**, Johnson, T., Slater, L., and Redden, Spectral induced polarization signatures of hydroxyl adsorption in porous media. AGU 2010 Fall meeting, Dec. 2010, NS31B-1398.
19. \***Zhang, C.**, Prodan, C., Slater, L., Bendiganavale, A., Ntarlagiannis, D., and Hubbard, S., Low-Frequency Dielectric Spectroscopy Measurements on Sulfate-Reducing Bacteria Cell Suspensions. Goldschmidt 2010 conference, Jun. 2010, Gold2010:abs:1673.
20. **Zhang, C.**, Prodan, C., Slater, L., Bendiganavale, A., Ntarlagiannis, D., and Hubbard, S., Investigation of low-frequency dielectric spectroscopy of sulfate-reducing bacteria (*Desulfovibrio vulgaris*) cell suspensions". DOE-ERSP 5th Annual PI meeting, Mar. 2010.
21. **Zhang, C.**, Prodan, C., Slater, L., Bot, C., and Ntarlagiannis, D., Improving interpretation of geoelectrical signatures arising from biomineralization process in porous media: low-frequency dielectric spectroscopy measurements on *desulfovibrio vulgaris* cell suspensions. AGU 2009 Fall meeting, Dec. 2009, H43C-1032.
22. \***Zhang, C.**, Ntarlagiannis, D., Doherty, R., Slater, L., and Singh, K., A comparison of electrodic potential signals and self-potential signals in microbial induced sulfate reducing environments. AGU Biogeophysics Chapman Conference, Oct. 2008.
23. **Zhang, C.**, Ntarlagiannis, D., Doherty, R., Slater, L., and Singh, K., Electrical potential source mechanisms in microbial induced sulfate reducing environment. AGU 2007 Fall meeting, Dec. 2007, NS11B-0500.

**b. Student & Co-Authored Presentations (> 65 presentations at AGU, SEG, EGU, GSA, and etc.)**