

CARI JOHNSON, Ph.D.

CURRICULUM VITAE

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EDUCATION

2003 Postdoctoral Research Associate, U.S. Geological Survey & Stanford University
2002 Stanford University, Ph.D., Geological and Environmental Sciences
1996 Carleton College, B.A., Geology, *magna cum laude*

PROFESSIONAL APPOINTMENTS

2016- present Professor, Dept. of Geology & Geophysics, University of Utah
2011-present Affiliated Faculty, Global Change & Sustainability Center, U. Utah
2019-2022 Associate Dean for Research, College of Mines & Earth Sciences
2009-2016 Associate Professor, Dept. of Geology & Geophysics, University of Utah
2003-2009 Assistant Professor, Dept. of Geology & Geophysics, University of Utah

RECOGNITIONS AND CAREER HIGHLIGHTS

- Keynote Address, International Sedimentary Geosciences Congress (2024)
- Dickinson Award, SEPM (2021)
- Associate Dean for Research, CMES (2019-2022)
- Associate Editor, Basin Research (2018-present)
- PinkPetro/Ally Energy GRIT Team Award with Dr. Lauren Birgenheier (2019)
- SEPM Research Councilor (2018-2020)
- Grover E. Murray Memorial Distinguished Educator Award, AAPG (2016)
- SEPM Outstanding Presentation Award, AAPG-ACE Convention (2016)
- Robert Mitchum best paper award (Basin Research, EAGE) (2016)
- Geological Society of America Fellow (elected 2015)
- Department of Geology and Geophysics Faculty Research Award (2015)
- University of Utah Distinguished Mentoring Award (2013)
- Blaustein Fellowship, Stanford University (2013)
- Editorial Boards: Geology (2007-2010), Basin Research (2010-present), Frontiers in Earth Science (2018-2022)
- Associate Editor for GSA Memoir (2015), Utah Geological Assoc. Guidebook (2010)
- University of Utah Faculty Fellow Award (2013)
- Teaching Fellow, Center for Teaching and Learning Excellence, U. Utah (2012-2014)
- Presidential Commission on the Status of Women (2007-2013)
- ConocoPhillips Faculty Sponsorship Award (2011)
- University of Utah Early Career Teaching Award (2010)
- AAPG Student Chapter Advisor (2003-2020), multiple Outstanding Chapter awards

RESEARCH INTERESTS

- Stratigraphy, Sedimentary Basin Analysis, Tectonics, Subsurface Characterization

PROFESSIONAL PUBLICATIONS

58 lifetime peer-reviewed publications. *Italics* = student advisees. h-index 25; i10-index = 38; 3260 citations ([Google Scholar](#), 1/1/2023).

58. Tully, J., **Johnson, C.L.**, Graham, S.A., Ritts, B.D., and Cope, T., in press, Sedimentary basins of the late Mesozoic extensional domain of China and Mongolia, in Chiarelli, D., ed., Regional Geology and Tectonics: Phanerozoic Rift Systems and Sedimentary Basins, Elsevier.
57. Atlas, C. E., Morris, E. A., **Johnson, C. L.**, & Wroblewski, A. F.-J., 2023, New approaches to the architectural analysis of deltaic outcrops: Implications for subsurface reservoir characterization and paleoenvironmental reconstruction. *Sedimentologica*, 1(1). <https://doi.org/10.57035/journals/sdk.2023.e11.1051>
56. Reat-Wersan, E., and **Johnson, C.L.**, 2023, Light fractions can also be heavy hitters: multiproxy investigations of detrital provenance for the Cretaceous Interior Seaway of Southern Utah, Basin Research, v. 35, p. 1772-1792, DOI: 10.1111/bre.12773.
55. St. Pierre, G.A., **Johnson, C.L.**, 2022, Challenging assumptions of sediment routing in retroarc foreland basins: Detrital zircon evidence for axial versus transverse drainages in the Late Cretaceous of southern Utah, U.S.A., Basin Research, v. 34, n. 6, p. 1960-1982. <https://doi.org/10.1111/bre.12692>
54. **Johnson, C.L.**, Root, J.C., Hynek, S.A., and Schmidt, J.C., 2022, Sedimentary record of annual-decadal timescale reservoir dynamics: Anthropogenic stratigraphy of Lake Powell, Utah, U.S.A., The Sedimentary Record, vol. 20 (1), p. 15-29. <https://doi.org/10.2110/sedred.2022.1.3>
53. McBride, R.A., Anderson, J.B., Buynevich, I.V., Byrnes, M.R., Cleary, W., Fenster, M.S., Fitzgerald, D.M., Hapke, C.J., Harris, M.S., Hein, C.J., **Johnson, C.L.**, Klein, A.H.F., Liu, B., de Menezes, J.T., Mulhern, J.S., Oliver, T.S.N., Pejrup, M., Riggs, S.R., Roberts, H.H., Rodriguez, A.B., Seminack, C.T., Short, A.D., Stone, G.W., Tamura, T., Wallace, D., and Wang, P., 2022, Morphodynamics of Modern and Ancient Barrier Systems: An Updated and Expanded Synthesis. In: Shroder, J.F. (Editor in Chief), Sherman, D.J. (Ed.), *Treatise on Geomorphology*. Elsevier, San Diego, CA, vol. 9, Coastal and Submarine Geomorphology, p. 289-417. <https://doi.org/10.1016/B978-0-12-818234-5.00153-X>
52. St. Pierre, G.A., **Johnson, C.L.**, 2022, Faulty foundations: Early breakup of the southern Utah Cordilleran foreland basin, Geological Society of America Bulletin, v. 134, n. 3-4, p. 547–566, <https://doi.org/10.1130/B35872.1>.
51. Mulhern, J.S., **Johnson, C.L.**, Green, A.N., 2021, When is a barrier island not an island? When it is preserved in the rock record, Frontiers in Earth Science, Sedimentology, Stratigraphy, and Diagenesis, v. 8, 560437, doi.org/10.3389/feart.2020.560437.
50. Fernandes, A., and 14 coauthors, 2020, “Enriching Lives within Sedimentary Geology”: Actionable Recommendations for Making SEPM a Diverse, Equitable and Inclusive Society for All Sedimentary Geologists, The Sedimentary Record, Sept. 2020, p. 4-12, <http://10.31223/osf.io/y7v9e>
49. Koch, A.R., **Johnson, C.L.**, Stright, L., 2019, Does fluvial channel-belt clustering predict net sand to gross rock volume? Architectural metrics and point-pattern analysis of a digital outcrop model, Journal of Sedimentary Research, v. 89, p. 1109-1126, <http://dx.doi.org/10.2110/jsr.2019.60>.
48. Mulhern, J.S., **Johnson, C.L.**, Martin, J.M., 2019, Modern to Ancient Barrier Island Dimensional Comparisons: Implications for Analog Selection and Paleomorphodynamics, Frontiers in Earth Science, Sedimentology, Stratigraphy, and Diagenesis, <https://doi.org/10.3389/feart.2019.00109>.

47. *Primm, J.W., Johnson, C.L., Stearns, M., 2018, Basin-axial progradation of a sediment supply-driven distributive fluvial system in the Late Cretaceous southern Utah foreland, Basin Research, v. 30 (1), p. 249-278, <https://doi.org/10.1111/bre.12252>.*
46. *Heumann, M.J., Johnson, C.L., and Webb, L.E., 2018, Plate interior polyphase fault systems and sedimentary basin evolution: Case study of the East Gobi Basin and East Gobi Fault Zone, southeastern Mongolia, Journal of Asian Earth Sciences, v. 151, p. 343-358, <http://dx.doi.org/10.1016/j.jseaes.2017.05.017>.*
45. *Adiya, Ts., Johnson, C.L., Loewen, M.A., Ritterbush, K.A., Constenius, K.N., and Dinter, C.M., 2017, Microbial-caddisfly bioherm association from the Lower Cretaceous Shinekhudag Formation, Mongolia: Earliest record of plant armoring in fossil caddisfly cases, PLoS ONE, v. 12, n. 11, e0188194. <http://doi.org/10.1371/journal.pone.0188194>.*
44. *Mulhern, J., Johnson, C.L., and Martin, J., 2017, Is barrier island morphology a function of tidal and wave regime?, Marine Geology, v. 387, p. 74-84, <http://doi.org/10.1016/j.margeo.2017.02.016>.*
43. *Birgenheier, L.P., Horton, B., McCauley, A., Johnson, C.L., Kennedy, A., 2017, A depositional model for offshore deposits of the Lower Blue Gate Member, Mancos Shale, Uinta Basin, Utah, Sedimentology, v. 64, p. 1402-1438.*
42. *Mulhern, J., and Johnson, C.L., 2017, Time-space variability of paralic strata deposited in a high accommodation, high sediment supply setting: example from the Cretaceous of Utah, Sedimentology of Paralic Reservoirs: Recent Advances, Geological Society of London Special Publications, v. 444, p. 349-392.*
41. *Johnson, C.L., Stright, L., Purcell, R., Durkin, P., 2017, Stratigraphic evolution of an estuarine fill succession, and reservoir characterization of inclined heterolithic strata, Cretaceous of southern Utah, USA, Sedimentology of Paralic Reservoirs: Recent Advances, Geological Society of London Special Volume, p. 251-286.*
40. *Benhallam, W., Turner, A., Stright, L., and Johnson, C.L., 2016, Spatial analysis of channel-belt stacking patterns: metrics to discriminate between local and regional controls on deposition in the fluvial John Henry Member of the Straight Cliffs Formation, southern Utah, Journal of Sedimentary Research, v. 86, p. 1210-1227. DOI: <http://dx.doi.org/10.2110/jsr.2016.77>*
39. *Hudson, S., Johnson, C.L., Afandiyeva, M.A., 2016, Spatial and temporal variability of Paleocene-Miocene organofacies of the Kura Basin, eastern Azerbaijan, and implications for basin evolution and petroleum generation, Organic Geochemistry, [oi:10.1016/j.orggeochem.2016.04.002](https://doi.org/10.1016/j.orggeochem.2016.04.002).*
38. *Gooley, J., Johnson, C.L., Pettinga, L., 2016, Spatial and temporal variations of fluvial architecture within a prograding clastic wedge of the Late Cretaceous Western Interior Basin (Kaiparowits Plateau), USA, Journal of Sedimentary Research, v. 86, p. 125-147. [doi:10.2110/jsr.2016.11](https://doi.org/10.2110/jsr.2016.11).*
37. *Hobbs, D.J., Birgenheier, L.P., Johnson, C.L., and Greb, M., 2015, Unconventional petroleum system analysis using a 3D basin model—Mancos Shale, Uinta Basin, Utah. In: Utah Geological Association Publication 44, Geology of Utah's Uinta Basin and Uinta Mountains, p. 417-453.*
36. *Chentnik, B., Johnson, C.L., Mulhern, J., Stright, L., 2015, Valleys, estuaries, and lagoons: Paleoenvironments and regressive-transgressive architecture of the Upper Cretaceous Straight Cliffs Formation, Journal of Sedimentary Research, v. 85, p. 1166-1196.*
35. *Johnson, C.L., 2015, Sedimentary basins in transition: Distribution and tectonic settings of Mesozoic strata in Mongolia, in Anderson, T.H., Didenko, A.N., Johnson, C.L., Khanchuk, A.I., and MacDonald, J.H., Jr., eds., Late Jurassic Margin of Laurasia—A Record of*

- Faulting Accommodating Plate Rotation: Geological Society of America Special Paper 513, p. 543-560. doi:10.1130/2015.2513(17).
34. **Johnson, C.L.**, Constenius, K.C., Payton, A., Graham, S.A., and *Mackey, G.*, 2015, Subsurface evidence for late Mesozoic extension in western Mongolia: Tectonic and petroleum systems implications, *Basin Research*, v. 27, n. 3, p. 272-294.
 33. *Szwarc, T.S.*, **Johnson, C.L.**, Stright, L.E., McFarlane, C.M., 2015, Interactions between axial and transverse drainage systems in the Late Cretaceous Cordilleran foreland basin: Evidence from detrital zircons in the Straight Cliffs Formation, southern Utah, USA, *Geological Society of America Bulletin*, v. 127, n. 3-4, p. 372-392.
 32. *Nieminski, N.M.*, **Johnson, C. L.**, 2014, A Guide to the Bedrock Geology of Range Creek Canyon, Book Cliffs, Utah, *Geology of the Intermountain West*, Utah Geological Association, v. 1, p. 1-31.
 31. *Heumann, M.J.*, **Johnson, C.L.**, Webb, L.E., Taylor, J.P., Undariya, J., Minjin, Ch., 2014, Total and incremental left-lateral displacement across the East Gobi Fault Zone, southern Mongolia: Implications for timing and modes of polyphase intracontinental deformation, *Earth and Planetary Science Letters*, v. 392, p. 1-15.
 30. Taylor, J. P., Webb, L.E., **Johnson, C.L.**, *Heumann, M.J.*, 2013, The lost South Gobi Microcontinent: protolith studies of metamorphic tectonites and implications for the evolution of continental crust in southeastern Mongolia, *Geosciences*, v. 3, n. 3, p. 543-584. doi:10.3390/geosciences3030543.
 29. **Johnson, C.L.**, *Semple, I.L.*, and Creem, S., 2013, The effects of scaling cues and interactivity on a viewer's ability to estimate the size of features shown on outcrop imagery, *Journal of Geological Education*, v. 61, n. 1, p. 68-80.
 28. *Moore, J.A.*, **Johnson, C.L.**, Ritts, D., and Archer, R., 2012, Facies analysis, reservoir characterization, and LIDAR modeling of an Eocene lacustrine delta, Green River Formation, Southwest Uinta basin, Utah, *American Association of Petroleum Geologists Memoir 95*, Ch. 7, p. 183-208.
 27. Archer, R., Robanna, E., Ritts, B., *Moore, J.*, **Johnson, C.L.**, and Taylor, A., 2012, Reservoir simulation models of an Eocene lacustrine delta, Green River Formation, SW Uinta basin, Utah, in Y. Bartov and D. Nummedal, eds., *Sandstones in lacustrine depositional settings*, *American Association of Petroleum Geologists Memoir 95*, Ch. 8, p. 209-222.
 26. *Allen, J.A.*, **Johnson, C.L.**, *Heumann, M.J.*, *Gooley, J.*, and *Gallin, W.*, 2012, New Technology and Methodology for Assessing Sandstone Composition: A Preliminary Case Study using a Quantitative Electron Microscope Scanner (QEMScan), *Geological Society of America Special Publication 487*, p. 177-194.
 25. Graham, S.A., Cope, T., **Johnson, C.L.**, and Ritts, B.D., 2012, Sedimentary Basins of the Late Mesozoic Extensional Domain of China and Mongolia, in Roberts, D.G., and Bally, A.W., eds., *Regional Geology and Tectonics: Phanerozoic Rift Systems and Sedimentary Basins*, Chapter 17, p. 443-462, Elsevier (Amsterdam).
 24. *Heumann, M.J.*, **Johnson, C.L.**, Webb, L.E., Taylor, J.P., Jalbaa, U., Chuluun, M., 2012, Paleogeographic reconstruction of a late Paleozoic arc collision zone, southern Mongolia, *Geological Society of America Bulletin*, v. 124, n. 9-10, p. 1514-1534: DOI 10.1130/B30510.1.
 23. **Johnson, C.L.**, and Ritts, B.D., 2012, Plate Interior Polyphase Basins, *in* Busby, C., and Azor, A., *Recent Advances in Tectonics of Sedimentary Basins*, Blackwell Science, Ch. 28, p. 567-582.
 22. Efendiyeva, M., Babaev, R., **Johnson, C.L.**, Feyzullayev, A., and Aliev, Ch., 2012, Radiostratigraphic study of the deposits of the Maikop Group, western Azerbaijan, *Stratigraphy and Geological Correlation*, v. 20, n. 6, p. 567-577.

21. Allen, J.L., and **Johnson, C.L.**, 2011, Architecture and formation of transgressive-regressive cycles in marginal marine strata of the John Henry Member, Straight Cliffs Formation, Upper Cretaceous of southern Utah, USA, *Sedimentology*, v. 58, p. 1486-1513.
20. Allen, J. L., and **Johnson, C.L.**, 2010a, Sedimentary facies, paleoenvironments, and relative sea level changes in the John Henry Member, Cretaceous Straight Cliffs Formation, Southern Utah, in Carney, S., Tabet, D., and Johnson, C. (eds.), *Geology of South-Central Utah: UGA Guidebook 39*, p. 225-247.
19. Allen, J.L., and **Johnson, C.L.**, 2010b, Facies control on sandstone composition (and influence of statistical methods on interpretations) in the John Henry Member, Straight Cliffs Formation, Southern Utah, USA, *Sedimentary Geology*, v. 230, p. 60-76.
18. Gallin, W., **Johnson, C.L.**, and Allen, J., 2010, Fluvial and marginal marine architecture of the John Henry Member, Straight Cliffs Formation, Kelly Grade of the Kaiparowits Plateau, south-central Utah, in Carney, S., Tabet, D., and Johnson, C. (eds.), *Geology of South-Central Utah, UGA Guidebook 39*, p. 248-275.
17. Webb, L.E., **Johnson, C.L.**, and Minjin, Ch., 2010, Late Triassic sinistral shear in the East Gobi Fault Zone, Mongolia, *Tectonophysics*, v. 496, n. 3-4, p. 246-255.
16. **Johnson, C.L.**, Hudson, S.H., Rowe, H.D., Efendiyeva, M.A., 2010, Geochemical constraints on the Paleocene-Miocene evolution of eastern Azerbaijan, with implications for the South Caspian basin and eastern Paratethys, *Basin Research*, v. 22, p. 733-750, doi:10.1111/j.1365-2117.2009.00427.x.
15. Ritts, B.D., Berry, A.K., **Johnson, C.L.**, Darby, B.J., and Davis, G., 2010, Early Cretaceous supradetachment basins in the Hohhot metamorphic core complex, Inner Mongolia, China, *Basin Research*, v. 22, p. 45-60.
14. Hudson, S.H., **Johnson, C.L.**, Efendiyeva, M.A., Rowe, H.D., Feyzullayev, A.A., and Aliyev, C.S., 2008, Stratigraphy and geochemical characterization of the Oligocene-Miocene Maikop series: Implications for the paleogeography of Eastern Azerbaijan, in Sorkhabi, R., ed., *Out of Tethys: New Geologic Studies on the Making of Asia*, *Tectonophysics*, v. 451, p. 40-55, doi: 10.1016/j.tecto.2007.11.045.
13. **Johnson, C.L.**, Amory, J.A., Graham, S.A., Lamb, M.A., G. Badarch, and Affolter, M., 2008, Accretionary tectonics and sedimentation during late Paleozoic arc collision, China-Mongolia border region, in A. Draut, P. Clift, and D. Scholl, eds., *Formation and applications of the sedimentary record in arc collision zones*, *Geological Society of America Special Paper 436*, p. 363-390.
12. **Johnson, C.L.**, and Graham, S.A., 2007, Middle Tertiary Stratigraphic Sequences of the San Joaquin Basin, California, U.S. Geological Survey Professional Paper 1713, Ch. 6, <http://pubs.usgs.gov/pp/pp1713/>.
11. Webb, L.E., and **Johnson, C.L.**, 2006, Tertiary strike-slip faulting in southeastern Mongolia and implications for Asian tectonics, *Earth and Planetary Science Letters*, v. 241, p. 323-335.
10. **Johnson, C.L.**, Bloch, R.B., and Graham, S.A., 2005, Tertiary Sequences of the Central San Joaquin Basin, California: Age Control and Eustatic Versus Tectonic Forcing Factors, AAPG Pacific Section, MP#49, 1 large sheet.
9. Milner, M.A., **Johnson, C.L.**, and Bereskin, S.R., 2005, A subsurface and outcrop interpretation of the Paleocene-Eocene boundary, northwest San Juan basin, New Mexico, *Rocky Mountain Geologist*, January Issue, p. 11-22.
8. **Johnson, C.L.**, and Graham S.A., 2004a, Cycles in periacustrine facies in Late Mesozoic rift basins, southeastern Mongolia, *Journal of Sedimentary Research*, v. 74, n. 6, p. 770-785.

7. **Johnson, C.L.**, and Graham, S.A., 2004b, Sedimentology and reservoir architecture of a synrift lacustrine delta, southeastern Mongolia, *Journal of Sedimentary Research*, v. 74, n. 6, p. 786-804.
6. **Johnson, C.L.**, 2004, Mesozoic-Cenozoic evolution of the East Gobi basin: Integration of outcrop and subsurface data, *Basin Research*, v. 16, n. 1, p. 79-100.
5. **Johnson, C.L.**, Greene, T.J., Zinniker, D.A., Moldowan, J.M., Hendrix, M.S., and Carroll, A.R., 2003, Geochemical characteristics and correlation of oil and nonmarine source rocks from Mongolia, *American Association of Petroleum Geologists Bulletin*, v. 87, n. 5, p. 817-846.
4. **Johnson, C.L.**, Webb, L., Graham, S., Hendrix, M., and G. Badarch, 2001, Sedimentary and structural records of late Mesozoic high-strain extension and strain partitioning, East Gobi basin, southern Mongolia, *Geological Society of America Memoir* 194, p. 413-433.
3. Graham, S.A., Hendrix, M.S., **Johnson, C.L.**, D. Badamgarav, G. Badarch, Amory, J., Porter, M., R. Barsbold, Webb, L.E., and Hacker, B., 2001, Sedimentary record and tectonic implications of Mesozoic rifting in southeast Mongolia, *Geological Society of America Bulletin*, v. 113, p. 1560-1579.
2. Varga, R.J., Gee, J.S., Bettison-Varga, L.A., Anderson, R.S., and **Johnson, C.L.**, 1999, Early establishment of seafloor hydrothermal systems during structural extension; paleomagnetic evidence from the Troodos Ophiolite, Cyprus, *Earth and Planetary Science Letters*, v. 171, n. 2, p. 221-235.
1. Webb, L., Graham, S., **Johnson, C.L.**, Hendrix, M., and Badarch, G., 1999, Occurrence, age, and implications of the Yagan-Onch Hayrhan metamorphic core complex, southern Mongolia, *Geology*, v. 27, p. 143-146.

ABSTRACTS AND PRESENTATIONS

Last three years of abstracts listed.

- Morris, E.A., Reat-Wersan, E.J., **Johnson, C.L.**, and Wickens, H.D., 2024, Soft sediment deformation style and distribution as a method to define shelf-edge rollover in low-gradient shelf-edge delta systems, SEPM-International Sedimentary Geoscience Congress (Flagstaff, AZ, May 2024).
- Reat-Wersan, E.J., **Johnson, C.L.**, 2024, Light fractions can also be heavy hitters: Comparison of detrital zircon U–Pb and detrital K-feldspar Pb–Pb as provenance indicators—A case study from Cretaceous strata of southern Utah, USA, SEPM-International Sedimentary Geoscience Congress (Flagstaff, AZ, May 2024).
- Bagge, S., Bowen, B., **Johnson, C.L.**, DeHoff, M., 2023, Recognizing the role of boundary organizations in resource management of remote public lands: A case study of the Returning Rapids project, Geological Society of America Annual Meeting (Pittsburgh, October 2023).
- Bowen, B., **Johnson, C.L.**, Kasprak, A., DeHoff, M., 2023, Geomorphic and sedimentologic expressions of exposed Lake Powell sediment in the reservoir-affected zones of the Colorado River and San Juan River corridors, Geological Society of America Annual Meeting (Pittsburgh, October 2023).
- Morris, E., and **Johnson, C.L.**, 2023, Three-dimensional geometry, stratigraphic significance, and sedimentology of growth faults in ancient deltas, IMAGE (AAPG) (Houston, September 2023).

- Henriquez, S., **Johnson, C.L.**, *Tully, J.*, Lippert, P., Webb, L.E., Gerel, O., 2023, The growth of the Mongol-Okhotsk Belt in central Mongolia: Insights from low-temperature thermochronology, Thermo2023 (Riva del Garda, September 2023).
- Johnson, C.L.**, Hartley, H., Bowen, B., Kasprak, A., DeHoff, M., Root, C., 2023, A tale of two rivers: Rates of change, geomorphic and sedimentologic expressions, and controls on connected fluvial-delta-lacustrine systems as revealed by the Glen Canyon Dam ‘experiment’, International Congress on Fluvial Systems (Riva del Garda, June 2023).
- Auchter, N., Falivene, O., Desjardins, P., Morris, E., **Johnson, C.L.**, 2023, Identification of Fluvio-Deltaic and Shallow Marine Lithofacies in Core Using Deep Learning Segmentation, International Congress on Fluvial Systems (Riva del Garda, June 2023).
- Johnson, C.L.**, Mulhern, J.S., Green, A.H., 2021, How to link modern and ancient barrier island systems: dimensional comparisons and updated sedimentary facies models, European Geophysical Union Annual Meeting (virtual).
- Johnson, C.L.**, Hynek, S.A., Schmidt, J.C., 2021, Dam Dominy: Anthropocene stratigraphy records appearance and highstand fluctuations in the Colorado River arm of Lake Powell, UT, SEPM International Sedimentary Geosciences Congress (virtual).
- St. Pierre, G.*, **Johnson, C.L.**, 2021, Untangling provenance signals: source-area mixing in an axial drainage across the southern Utah Cordilleran foreland basin, SEPM International Sedimentary Geosciences Congress (virtual).

INVITED TALKS AND PRESS

- ~15+ interviews concerning Lake Powell reservoir sediment in 2022-present, including: New York Times, KUER, Fox13, The Weather Channel, Salt Lake Tribune, Arizona Daily Star, High Country News, 12 News Phoenix 12, the Smithsonian Magazine.
- Real Time to Deep Time: Rates and expressions of change in linked fluvial-deltaic-lacustrine systems revealed by the Glen Canyon Dam ‘experiment,’ Keynote Address, International Sedimentary Geoscience Congress, Flagstaff, AZ (May 2024)
- A tale of two rivers: Rates of change, geomorphic and sedimentologic expressions, and controls on connected fluvial-delta-lacustrine systems as revealed by the Glen Canyon Dam ‘experiment’, Tulane University Seminar Series, December 2024.
- Trip Leader, Stanford Travel/Study Mongolia, August 2022.
- The Muck and the Mire: Tales of Subsidence and Woe from the Kaiparowits Plateau, southern Utah. SEPM Annual Conference Luncheon Keynote (May 2021); University of Arizona Distinguished Lecture Series (September 2019).

GRANTS AND RESEARCH SUPPORT

Abbreviated to last 5 years. Underlined project budgets are over-headed contracts.

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| 2024 | (pending) NSF Geothermal INTERN Supplement: \$55,000 (second supplement to NSF-EAR-Tectonics grant, see below). |
| 2023 | Utah Statewide Carbon Storage Assessment: Geological Data Gathering, Analysis, Sharing, and Engagement. Department of Energy. Subcontract through UGS. GG portion: <u>\$187,500</u> . |
| 2023 | University of Utah Teaching Grant: Stream Table for Geoscience Education and Outreach (\$11,000). |
| 2023 | NSF Geothermal INTERN Supplement: \$55,000 (supplement to NSF-EAR-Tectonics grant, see below). |

- 2022 Isotopic Analysis Applied to Arid Region Hydrological Investigations. U.S. Geological Survey. \$20,000 (2022).
- 2021 Machine Learning in Shallow Marine Facies. Shell Corporation. \$50,000 (2021).
- 2020 Rocks2Models: Amendment 4: Outcrop analogs for deltaic subsurface reservoirs. \$457,500 (2020-2022). Total Rocks2Models grants (2012-present, all companies) = \$2,007,500.
- 2019 Collaborative Research: Suturing the Heart of Asia: Tectonics of the Mongol-Okhotsk Ocean Closure. NSF-EAR-Tectonics. *Co-PI with Dr. Peter Lippert and Dr. Laura Webb (U. Vermont)*. Total initial award \$960,622 (\$672,114 UU portion; 2019-2021). 2020-22 Supplements total \$258,100 – updated total UU award amount = \$930,214.
- 2019 University of Utah VPR-Seed grant: Sediment flux records in Lake Powell deltas: Broader earth systems perspectives for watershed science. \$22,500 (2019-2020).
- 2018 Gulf of Corinth Provenance and Database Analysis, USSSP-IODP Post Expedition Award, \$17,994 (2018-2020).
- 2018 Rocks2Models: Phase 3 JIP: Deltaic topsets of the Karoo basin, South Africa. Support from ConocoPhillips, \$150,000 (2018-2020); \$75,000 Amendment 1 (2018); \$125,000 Amendment 2 (2019).

TEACHING (last 5 years)

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| Fall 2023 GEO 3040 + Lab – Sedimentology and Stratigraphy. 4 cr, 13 students. | Spring/Summer 2024 GEO 1100 - Evolving Earth, 3 cr, 40 students. cotaught with J. Karner. GEO 4510 – Field Camp. 2 cr, 15 students. |
| Fall 2022 Sabbatical | Spring 2023 Sabbatical |
| Fall 2021 GEO 3040 + Lab – Sedimentology and Stratigraphy. 4 cr, 14 students. *new course prep | Spring 2021 GEO 5920/6920 – Tectonics and Sedimentary Basins. 3 cr, 5 students |
| Fall 2020 GEO 1100 – Evolving Earth (cotaught w/ R. Irmis). 3 cr, 43 students GEO 5510/6510 – PICP 1a: Intro to Petroleum Systems. 1.5 cr, 4 students GEO 5920/6920 – Modern Carbonate Environments. 1 cr, 12 students | Spring 2020 GEO 5920/6920 – Advanced Depositional Environments. 2 cr, 9 students |
| Fall 2019 GEO 1100 – Evolving Earth (cotaught w/ K. Melstrom). 3 cr, 48 students | Spring 2019 GEO 5920/6920 – Tectonics and Sedimentary Basins. 3 cr, 6 students. GEO 5525/6525 – PICP 2a Seismic Interpretation. 1.5 cr, 4 students |

ADVISING

25 Former Graduate Student (Thesis) Advisees: 6 Ph.D., 19 M.S. 1 Ph.D. currently in progress.
2 former and 1 current Post-Doctoral Research Associates.

| Name | Degree | Year | Thesis Title |
|----------------------|--------|----------|--|
| Tully, Justin | Ph.D. | In prog. | Tectonics of the Mongol-Okhotsk Suture Zone |
| Hartley, Hannah | M.S. | 2022 | Sedimentation in the San Juan arm of Lake Powell: Decadal, Reservoir level-controlled packaging and annual, seasonally-controlled cycles in sediment cores |
| Atlas, Claire | M.S. | 2022 | New approaches to the architectural analysis of ancient deltas: implications for subsurface reservoir characterization and analog selection |
| Reat-Wersan, Ellen | Ph.D. | 2021 | Sand grains to the shelf edge: Investigating basin evolution at multiple scales |
| St. Pierre, Gabriela | Ph.D. | 2021 | From source to sink: Foreland basin evolution of southern Utah from deposition to exhumation |
| Koch, Alex | M.S. | 2018 | Statistical comparison of fluvial channel belt clustering and architectural metrics, Cretaceous John Henry Member of the Straight Cliffs Formation, Utah |
| Adiya, Tsolmon | M.S. | 2017 | Microbial-caddisfly bioherm association from the Lower Cretaceous Shinekhudag Formation, Mongolia: Earliest record of plant armoring in fossil caddisfly cases |
| Mulhern, Julia | Ph.D. | 2016 | Time-space variability of paralic depositional environments: emphasis on barrier island preservation and paleomorphodynamics |
| Primm, Jonathan | M.S. | 2016 | Decoupled accommodation and sediment supply in the Late Cretaceous Cordilleran foreland basin of southern Utah: An extrabasinal affair |
| Hobbs, Daniel | M.S. | 2015 | Unconventional petroleum system analysis using a 3-D basin model: Mancos Shale, Uinta basin, Utah |
| Purcell, Ryan | M.S. | 2015 | Stratigraphic evolution of an estuarine fill succession, and reservoir characterization of inclined heterolithic strata, Cretaceous of southern Utah |
| Chentnik, Brenton | M.S. | 2014 | Valleys, estuaries, and lagoons: Paleoenvironments and regressive-transgressive architecture of the Upper Cretaceous Straight Cliffs Formation |
| Szwarc, Tyler | M.S. | 2013 | Interactions between axial and transverse drainage systems in the Late Cretaceous Cordilleran foreland basin: Evidence from detrital zircons in the Straight Cliffs Formation, southern Utah |
| Pettinga, Luke | M.S. | 2012 | Alluvial architecture and paleomorphodynamics of the Upper Cretaceous John Henry Member, Straight Cliffs Formation, Kaiparowits Plateau, Utah |
| Dooling, Patrick | M.S. | 2012 | Tidal facies, stratigraphic architecture, and along-strike variability of a high energy, transgressive shoreline, Upper Cretaceous, Kaiparowits Plateau, southern Utah |
| Crocker, Megan | M.S. | 2012 | Paleoclimatic Indicators in the Triassic Chinle Formation, Paria River, Utah |
| Semple, Ian | M.S. | 2011 | High resolution sequence stratigraphy of the lower Straight Cliffs Formation, southern Utah |
| Kennedy, Angela | M.S. | 2011 | Geologic predictors of hydrocarbon extraction potential of the Mancos Shale |
| Heumann, Matthew | Ph.D. | 2010 | Paleozoic-Cenozoic Evolution of the East Gobi Fault Zone, Southern Mongolia: A Protracted Record of Intracontinental Deformation and Basin Evolution, with Implications for Tectonics of Eurasia |
| Gooley, Jared | M.S. | 2010 | Alluvial Architecture and Predictive Modeling of the Late Cretaceous John Henry Member, Straight Cliffs Formation, Southern Utah |
| Gallin, Will | M.S. | 2010 | Fluvial stratigraphic architecture of the John Henry Member of the Straight Cliffs Formation, Kaiparowits Plateau, Utah, USA |
| Allen, Jessica | Ph.D. | 2009 | Transgressive-regressive cycles in a high accommodation setting, John Henry Member, Straight Cliffs Formation: Implications for facies architecture and sequence stratigraphy |
| Thompson, Vaughn | M.S. | 2009 | Potential-field and 2D seismic analysis of a volcanic rifted margin: implications for crustal architecture and petroleum maturation off the west coast of South Africa |

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|----------------|-------|------|--|
| Hudson, Sam | Ph.D. | 2008 | Deciphering the early evolution of the Caspian Sea: Chemical characterization of the Cenozoic mudstones of Azerbaijan |
| Moore, Jessica | M.S. | 2005 | 3-D Stratigraphic architecture and sequence stratigraphy of marginal lacustrine strata in the Eocene Green River Formation, Utah |
| Milner, Mary | M.S. | 2004 | Characteristics and implications of the San Jose-Nacimiento Formation contact, Tertiary San Juan basin, NM |

Other Mentoring and Advising

Postdoctoral Research Associates

Elizabeth Mahon (2023-present): Wilkes Center Postdoc. Carbon Storage.

Susana Henriquez (2020-2022): Tectonics of the Mongol-Okhotsk Suture Zone. Assistant Professor at U.C. San Bernadino.

Emma Morris (2020-2023): Delta analogs for subsurface reservoirs. Assistant Professor Lamar University, TX.

MSSST (Master of Secondary Science School Teaching)

2023 Co-Advisor (with Brenda Bowen): Hannah Baggs and Kelly Wilson, Delta Movements of the Upper Colorado and San Juan Rivers into Glen Canyon Reservoir 2019-2023

Committee Member

2024 Casey Meirovitz, Ph.D., Geology and Geophysics

2023 Frederick Purifoy Ph.D., Economics, University of Utah

2023 MSSST – Ashley Fenwick, Bryan Bielicki

Undergraduate Research Advisor

~1-2/year: Audra Tessman, Nora Nieminski

SERVICE, DEVELOPMENT, AND OUTREACH ACTIVITIES (last 5 years)

Department Service (2023-24): Chair Development and Outreach, Executive Committee, Faculty Affairs Committee

Other Recent University Service

2022 VPR-One U Research Council Working Group

2020-2022 GG RPT and Annual Faculty Reviews Committee Chair

2021-2022 GG Computing and IT Committee

2020-2021 GG Executive Committee, Policies and Procedures

2020-2022 CMES Committee for the Advancement of Inclusion and Diversity (CAID)

2019-2022 CMES Associate Dean for Research

2018-2022 CMES College Council

2003-present GG Petroleum Industry Career Path steering committee.

2003-2020 AAPG Student Chapter, Faculty Advisor. Annual Austin Weeks awards (2004-2020). Outstanding U.S. AAPG Student Chapter award (2008, 2014). Group trips: Tectonics of the Alps (August 2009, 10 students); Modern Carbonate Systems, Turks and Caicos (January 2016); Deep-Water Fan Systems, South Africa (May 2017); Modern Carbonate Systems, Bahamas (December 2019).

Professional Associations, Journals, and Meetings

2018-present Associate Editor, Basin Research

2018-2022 Review Editor, Frontiers in Earth Science

2020 Geological Society of America Bulletin Outstanding Reviewer

2018-2020 SEPM Research Councilor

2019-2021 SEPM-ISGC Meeting Planning Committee, Plenary Speakers Chair

2018-2020 Awards Committees: SEPM Twenhofel Medal (Chair) and GSA Sloss Award (2019)

2018 SEPM Vice-Chair, AAPG Annual Convention and Exposition, Salt Lake City, UT

Other Professional Development

2021 URGE - Unlearning Racism in Geoscience - GG Dept Pod Leader

2020-present CMES Committee for the Advancement of Inclusion and Diversity (CAID)

2020 Whiteness at Work Series

PROFESSIONAL ASSOCIATIONS

Geological Society of America - Fellow

American Association of Petroleum Geologists

Association of Women Geoscientists

Society for Sedimentary Geology (SEPM)

International Association of Sedimentologists

National Association of Geoscience Teachers

American Geophysical Union

European Geophysical Union

Phi Beta Kappa (elected 1996)

Sigma Xi (elected 1996)

Utah Geological Association