

Peter P. Flaig

Research Associate Professor

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Appointments

- 2023-Present **Research Associate Professor**, Bureau of Economic Geology, The University of Texas at Austin
- 2019-2023 **Research Scientist**, Bureau of Economic Geology, The University of Texas at Austin
- 2011-2019 **Research Associate**, Bureau of Economic Geology, The University of Texas at Austin
- 2017-present **Affiliate Faculty**, University of Alaska Fairbanks
- 2009-2011 **Postdoctoral Fellow**, Bureau of Economic Geology, The University of Texas at Austin
- 2005-2009 **Research and Teaching Assistant**, University of Alaska-Fairbanks
- 2002-2005 **Research and Teaching Assistant**, University of Wisconsin-Milwaukee

Education

- 2010 University of Alaska-Fairbanks: PhD in Geology, Department of Geosciences
- 2005 University of Wisconsin-Milwaukee: Master of Science in Geology
- 2002 University of Wisconsin-Milwaukee: Bachelor of Science in Geology
- 2002 University of Wisconsin-Milwaukee: Minor, Geography

Publications

Peer-Reviewed Manuscripts: in Review, Revision, Proofing:

van der Kolk, D.A., Flaig, P.P., and Hasiotis, S.T., (in review), Evolution of a high-latitude, river-dominated delta: The Upper Cretaceous Schrader Bluff Formation, Shivugak Bluffs, Arctic Alaska: *Geosciences*

Noto, C., Flaig, P.P., and Lorente, M.A., (in review), New insights into the South-Eastern Cretaceous Interior Seaway from combined biostratigraphy, sedimentology, and paleontology of the Arlington Archosaur Site, Woodbine Group, Texas, USA. *Sedimentologica*

Lorente, M.A., Noto, C., and Flaig, P.P., (in review), A glimpse into the palynology of the Arlington Archosaur Site, South-Eastern Interior Seaway, Texas, USA. *Palynology*. Current preprint on **BioRxiv**: <https://doi.org/10.1101/2023.12.04.569281>

Flaig, P. P., Garcia, K. L., Denison, C., Demchuk, T. D., Spangenberg, J., Campion, N., Adatte, T., van der Kolk, D.A., Castellort, S., and Moscardelli, L., (in review), Isotopic, biostratigraphic, and sedimentologic evidence for a new Paleocene–Eocene Thermal Maximum outcrop in Central Texas, USA, *Geology*.

Peer-Reviewed Manuscripts: Published:

34. Andrzejewski, K., Ludvigson, G., Suarez, M., McCarthy, P., and Flaig, P., 2023, Exploring the deuterium excess of Cretaceous Arctic paleoprecipitation using stable isotope composition of clay minerals from the Prince Creek Formation (Maastrichtian) in northern Alaska, *Geosciences*, v.13, no. 9, 273; <https://doi.org/10.3390/geosciences13090273>

33. Sharman, G., Covault, J., Flaig, P.P., Fussee-Durham, P., Larson, T., Shanahan, T., and Shaw, J., 2023, Coastal response to global warming during the Paleocene-Eocene Thermal Maximum, *Palaeogeography, Palaeoclimatology, Palaeoecology*, <https://doi.org/10.1016/j.palaeo.2023.111664>

32. Calle, A.Z., Horton, B.K., Garcia, R., Anderson, R.B., Stockli, D.F., Flaig, P.P., and Long, S.P., 2023, Sediment dispersal and basin evolution during contrasting tectonic regimes along the western Gondwanan margin in the central Andes: *Journal of South American Earth Science*, <https://doi.org/10.1016/j.jsames.2023.104286>

31. Flaig, P.P., Denison, C.N., Ambrose, W.A., and Demchuk, T.D., 2022, Outcrop evidence for variations in channel-floodplain facies and stratal architectures across the Simsboro to Calvert Bluff transition, Wilcox Group, Butler, Texas: *GCAGS Journal*, v. 11, p. 83-103.

30. Buntin, R.C.C. II, Hasiotis, S.T., and Flaig, P.P., 2022, Evaluating the ichnofossil *Teredolites* as an indicator of salinity and paleoenvironment: *PALAIOS*, v. 37, p. 53-72, <http://dx.doi.org/10.2110/palo.2020.074>

29. Roberts, A.K., Ambrose, W.A., Flaig, P.P., Steel, R.J., and Olariu, C., 2022, Controls on facies variability and distribution during the Pennsylvanian glacial period from the Lower Strawn Group, Fort Worth Basin, TX: *The American Association of Petroleum Geologists Bulletin*, v. 106, no. 8, p. 1679-1702, <http://doi.org/10.1306/02072221057>

28. Burnham, B.S., Flaig, P.P., Brice, R., Young, M., and Spagnolo, M., 2022, Rapid sediment re-deposition may limit carbon release during catastrophic thermokarst lake drainage: *GSA Today*, v. 32, no.5, p. 60-61, <https://doi.org/10.1130/GSATG529GW.1>

27. Burnham, B.S., Bond, C.E., Flaig, P.P., van der Kolk, D.A., and Hodgetts, D., 2022, Outcrop conservation: Promoting accessibility, inclusivity and reproducibility through digital preservation: *The Sedimentary Record*, v. 20, p. 5-14, <https://doi.org/10.2110/sedred.2022.1.2>.

26. Ludvigson, G.A., Dieffendorf, A.F., Suarez, M.A., Gonzalez, L.A., Corcoran, M.C., Schlanser, K., Flaig, P.P., McCarthy, P.J., van der Kolk, D.A., Houseknecht, D., and Sanders, M., 2022, Stable isotope tracers of Cretaceous Arctic paleoprecipitation: *Geosciences, Special Issue - Terrestrial Paleoclimatology and Paleohydrology of the Cretaceous Greenhouse World*, v. 12, 143; 1-17 <https://doi.org/10.3390/geosciences12040143>.

25. Sharman, G.R., Stockli, D.F., Flaig, P.P., Reynolds, R.G., Dechesne, M., and Covault, J.A., 2022, Tectonic influence on axial-transverse sediment routing in the Denver Basin, in Craddock, J.P., Malone, D.H., Foreman, B.Z., and Konstantinou, A., eds., Tectonic Evolution of the Sevier-Laramide Hinterland, Thrust Belt, and Foreland, and Postorogenic Slab Rollback (180–20 Ma): *Geological Society of America Special Paper* 555, p. 293–311, [https://doi.org/10.1130/2021.2555\(11\)](https://doi.org/10.1130/2021.2555(11))

24. Bonelli, J.R., and Flaig, P.P., 2021, Quantitative biofacies analysis to identify relationships and refine evolutionary controls for paleosol development, Prince Creek Formation, North Slope, Alaska, USA: *Geosciences, Special Issue -Terrestrial Paleoclimatology and Paleohydrology of the Cretaceous Greenhouse World*, 11, 460; 1-21 <https://doi.org/10.3390/geosciences11110460>
<https://doi.org/10.3390/geosciences11110460>.
23. Zhang, J., Flaig, P.P., Wartes, M., Aschoff, J., and Shuster, M., 2021, Integrating stratigraphic forward modelling, inversion analysis, and shelf-margin records to guide provenance analysis: An example from the Cretaceous Colville Basin, Arctic Alaska: *Basin Research*, v. 33, p. 1954-1966, DOI: <https://doi.org/10.1111/bre.1254>.
22. Senger, K., Betlem, P., Birchall, T., Buckley, S.J., Coakley, B.J., Eide, C.H., Flaig, P.P., Forien, M., Galland, O., Gonzaga, L., Jensen, M., Kurz, T., Leconte, I., Mair, K., Malm, R. H., Malm, R.H., Mulrooney, M.J., Naumann, N., Nordmo, I., Nolde, N., Ogata, K., Rabbel, O., Schaff, N.W., and Smyrak-Sikora, A., 2021, Using virtual outcrops to make the high Arctic more accessible through the Svalbox Database: *Journal of Geoscience Education*, v. 69, no. 2, p. 123-137, DOI: [10.1080/10899995.2020.1813865](https://doi.org/10.1080/10899995.2020.1813865).
21. Ambrose, W.A., Flaig, P.P., Zhang, J., Olariu, M.I., Denison, C., Demchuk, T., and O’Keefe, J.O., 2020, The Midway to Carrizo succession in the southeastern Texas Gulf Coast: Evolution of a tidally-influenced coastline: *Gulf Coast Association of Geological Societies Journal*, v. 9, p. 41-75.
20. Chiarenza, A.A., Fiorillo, A.R., Tykoski, R.S., McCarthy, P.J., Flaig, P.P., and Conteras, D.L., 2020, The first juvenile dromaeosaurid (Dinosauria, Theropoda) from Arctic Alaska: *PLoS ONE*, v. 15, no. 7, e0235078. <https://doi.org/10.1371/journal.pone.0235078>.
19. Flaig, P.P., Hasiotis, S.T., Prather, T.J., and Burton, D., 2019, Characteristics of a Campanian delta deposit controlled by alternating river-floods and tides: The Loyd Sandstone, Rangely Anticline, Colorado, U.S.A.: *Journal of Sedimentary Research*, v. 89, p. 1181-1206, <https://doi.org/10.2110/jsr.2019.63>.
18. Sharman, G.R., Stockli, D.F., Flaig, P.P., Reynolds, R.G., and Covault, J.A., 2018, Local-to-distant provenance cyclicity of the southern Front Range, central Colorado: Insights from detrital zircon geochronology, in Ingersoll, R.V., Lawton, T.F., and Graham, S.A., eds., *Tectonics, Sedimentary Basins, and Provenance: A Celebration of William R. Dickinson’s Career: Geological Society of America Special Paper 540*, p. 547-569, [https://doi.org/10.1130/2018.2540\(24\)](https://doi.org/10.1130/2018.2540(24)).
17. Flaig, P.P., Hasiotis, S.T., and Fiorillo, A.R., 2018, A paleopolar dinosaur track site in the Cretaceous (Maastrichtian) Prince Creek Formation of Arctic Alaska: Track characteristics and probable trackmakers: *Ichnos*, v. 25, p. 208-220, <http://doi.org/10.1080/10420940.2017.1337011>.
16. Burton, D., Flaig, P.P., and Prather, T.J., 2016, Regional controls on depositional trends in tidally modified deltas: Insights from sequence stratigraphic correlation and mapping of the Loyd and Segó Sandstones, Uinta and Piceance Basins of Utah and Colorado, U.S.A.: *Journal of Sedimentary Research*, v. 86, p. 763–785, <http://doi.org/10.2110/jsr.2016.48>.
15. Flaig, P.P., Hasiotis, S.T., and Jackson, A.M., 2016, An Early Permian, paleopolar, postglacial, river-dominated deltaic succession in the Mackellar–Fairchild formations at Turnabout Ridge, Central Transantarctic Mountains, Antarctica: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 441, no. 2, p. 241-265, <http://doi.org/10.1016/j.palaeo.2015.08.004>.
14. Jackson, A.M., Hasiotis, S.T., and Flaig, P.P., 2016, Ichnology of a paleopolar, river-dominated, shallow marine deltaic succession in the Mackellar Sea: the Mackellar Formation (Lower Permian),

Central Transantarctic Mountains, Antarctica: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 441, p. 266-291, <http://doi.org/10.1016/j.palaeo.2015.07.010>.

13. Suarez, C.A., Flaig, P.P., Ludvigson, G.A., Gonzalez, L.A., Tian, R., Zhou, H., McCarthy, P.J., van der Kolk, D.A., and Fiorillo, A.R., 2016, Reconstructing the paleohydrology of a Cretaceous Alaskan paleopolar coastal plain from stable isotopes of bivalves: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 441, no. 2, p. 339-351, <http://doi.org/10.1016/j.palaeo.2015.07.025>.

12. Fiorillo, A.R., McCarthy, P.P., and Flaig, P.P., 2016, A multi-disciplinary perspective on habitat preferences among dinosaurs in a Cretaceous Arctic greenhouse world, North Slope, Alaska (Prince Creek Formation: lower Maastrichtian): *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 441, no. 2, p. 377-389, <http://doi.org/10.1016/j.palaeo.2015.07.024>.

11. van der Kolk, D.A., Flaig, P.P., and Hasiotis, S.T., 2015, Paleoenvironmental reconstruction of a Late Cretaceous, muddy, river-dominated polar deltaic system: Schrader Bluff - Prince Creek Formation transition, Shivugak Bluffs, North Slope of Alaska, U.S.A: *Journal of Sedimentary Research*, v. 85, p. 903-936, <http://doi.org/10.2110/jsr.2015.58>.

10. Flaig, P.P., Fiorillo, A.R., and McCarthy, P.J., 2014, Dinosaur-bearing hyperconcentrated flows of Cretaceous Arctic Alaska: Recurring catastrophic event beds on a distal paleopolar coastal plain: *PALAIOS*, v. 29, p. 594-611, <http://doi.org/10.2110/palo.2013.133>.

9. Hudock, J.W., Flaig, P.P., and Wood, L.J., 2014, Washover fans: a modern geomorphologic analysis and proposed classification scheme to improve reservoir models: *Journal of Sedimentary Research*, v. 84, no. 10, p. 854-865, <http://doi.org/10.2110/jsr.2014.64>.

8. Flaig, P.P., McCarthy, P.J., and Fiorillo, A.R., 2013, Anatomy, evolution, and paleoenvironmental interpretation of an ancient arctic coastal plain: Integrated paleopedology and palynology from the upper Cretaceous (Maastrichtian) Prince Creek Formation, North Slope, Alaska, USA: in Driese, S.G. and Nordt, L.C., eds.: *New Frontiers in Paleopedology and Terrestrial Paleoclimatology, Paleosols and Soil Surface Analogue Systems*, *SEPM Special Publication No. 114*, p. 179-230.

7. Suarez, C., Ludvigson, G., Gonzalez, L.A., Fiorillo, A.R., Flaig, P.P., and McCarthy, P.J., 2013, Use of multiple oxygen isotope proxies for elucidating Arctic Cretaceous palaeo-hydrology, in Bojar, A.V., Melinte-Dobrinescu, M.C., and Smit, J., eds., *Isotopic Studies in Cretaceous Research*, *Geological Society of London, Special Publication 382*, p. 185-202, <http://doi.org/10.1144/SP382.3>.

6. Gulbranson, E.L., Isbell, J.L., Taylor, E.L., Ryberg, P., Taylor, T. N., and Flaig, P.P., 2012, Permian polar forests: deciduous and environmental variation: *Geobiology*, v. 10, p. 479-495, <https://doi.org/10.1111/j.1472-4669.2012.00338.x>.

5. Burton, D., Dunlap, D.B., Wood, L.J., and Flaig, P.P., 2011, Lidar intensity as a remote sensor of rock properties: *Journal of Sedimentary Research*, v. 81, p. 339-347, <https://doi.org/10.2110/jsr.2011.31>.

4. Flaig, P.P., McCarthy, P.J., and Fiorillo, A.R., 2011, A tidally influenced, high-latitude coastal-plain: the Upper Cretaceous (Maastrichtian) Prince Creek Formation, North Slope, Alaska, in Davidson, S., Leleu, S., and North, C. eds., *From river to rock record: the preservation of fluvial sediments and their subsequent Interpretation*: *SEPM Special Publication 97*, p. 233-264.

3. Fiorillo, A.R., McCarthy, P.J., and Flaig, P.P., 2010, Taphonomic and sedimentologic interpretations of the dinosaur-bearing Upper Cretaceous strata of the Prince Creek Formation, northern Alaska: insights from an ancient high-latitude terrestrial ecosystem: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 295, p. 376-388, <https://doi.org/10.1016/j.palaeo.2010.02.029>.

2. Fiorillo, A.R., McCarthy, P.J., Flaig, P.P., Brandlen, E., Norton, D., Jacobs, L., Zippi, P., and Gangloff, R.A., 2010, Paleontology and paleoenvironmental interpretation of the Kikak-Tegoseak Dinosaur Quarry,

(Prince Creek Formation: Late Cretaceous), Northern Alaska: a multi-disciplinary study of an ancient high-latitude, Ceratopsian Dinosaur Bonebed, in Ryan, M.J., Chinner-Algeier, B.J., and Eberth, D.A., eds., *New perspectives on horned dinosaurs: The Royall Tyrell Museum Ceratopsian Symposium*: Bloomington, Indiana, Indiana University Press, p. 456–477.

1. Fiorillo, A.R., Tykoski, R., Currie, P., McCarthy, P.J., and Flaig, P.P., 2009, Description of two partial Troodon braincases from the Prince Creek Formation (Upper Cretaceous) North Slope, Alaska: *Journal of Vertebrate Paleontology*, v. 29, p. 178–187, <https://www.jstor.org/stable/20491077>.

Peer-reviewed State Reports

Flaig, P.P., and van der Kolk, D.A., 2015, Depositional environments of the Prince Creek Formation along the east side of the Toolik River, Sagavanirktok Quadrangle, North Slope, Alaska: *Alaska Division of Geological & Geophysical Surveys Preliminary Interpretive Report 2015-4*, 17 p., 1 sheet. <http://doi.org/10.14509/29407>.

Field Guidebooks

Denison, C., and Flaig, P.P., 2021, Paleocene-Eocene stratigraphy and paleontology of central Texas: Wilcox Group and Claiborne Group, 28 p.

Flaig, P.P., Armitage, D., and Derewetzky, A., 2019, Deltaic-paralic systems of the Cretaceous Interior Seaway: Sedimentology, ichnology, stratal architectures, and controls: 5 day field course, 86 p.

Wroblewski, A., Hasiotis, S., and Flaig, P., 2019, Sedimentology and ichnology of fluvial and shallow-marine sedimentary environments: AAPG Annual Meeting and Exhibition, San Antonio, Texas, 2 day field course, 78 p.

Raney, J., and Flaig, P.P., 2015, Guidebook for Rocky Mountain Geoscience (12th Grade GeoFORCE) Field Trip in Utah, Wyoming, and Montana, 1 week field course, 91p.

Flaig, P.P., van der Kolk, D.A., and Wood, L.J., 2014, Wave, tide, and river-dominated systems of the Cretaceous Western Interior Seaway: the Kenilworth and Grassy members of the Blackhawk, the Sego, and the Loyd Formations, eastern Utah and northwestern Colorado: The University of Texas at Austin, Bureau of Economic Geology, Quantitative Clastics Laboratory, 2 day field course, 131 p.

Wood, L.J., and Flaig, P.P., 2013, Transgressive systems tract reservoirs of the San Juan Basin, Northwest New Mexico: The University of Texas at Austin, Bureau of Economic Geology, Quantitative Clastics Laboratory, 3 day field course, 69 p.

Wood, L.J., Flaig, P.P., and Burton, D., 2012, Along-strike variability of a tidal shoreline system: Castlegate to Neslen formations, northwestern Colorado to southwestern Wyoming: The University of Texas at Austin, Bureau of Economic Geology, Quantitative Clastics Laboratory, 2 day field course, 19 p.

Wood, L.J., Flaig, P.P., Burton, D., and Brame, J., 2011, Tide and wave-influenced shoreline reservoirs of the San Juan Basin, northwest New Mexico and southern Colorado, U.S.A.: The University of Texas at Austin, Bureau of Economic Geology, Quantitative Clastics Laboratory, 2 day field course, 78 p.

Workshop Workbooks

Olariu, I., Flaig, P.P., Garcia, K., Olariu, C., Hessler, A., Sivil, E., Smith, V., Lorente, M.A., Moscardelli, L., Denison, C., and Demchuk, T., 2023, Wilcox Group Recent Sedimentologic,

Biostratigraphic and Chemostratigraphic Insights: Implications for Stratigraphic Correlations, Depositional Trends, Paleoclimate and the Exploitation of Energy Resources in Texas.

Flaig, P.P., Hattori, K., Ambrose, W., Fu, Q., Dejarnett, B., Ko, L., Radjef, E., Carr, D., Hasiotis, S.T., Ogiesoba, C., and Moscardelli, L., 2021, Mixed carbonate-siliciclastic reservoir systems of the Strawn Group: focus – Upper Strawn, King and Stonewall counties, Texas, 94 p.

Flaig, P.P., and Sharman, G., 2017, U.S. Gulf Coast depositional systems at the Paleocene-Eocene transition, Wilcox Group core, Leon and Anderson County, Texas,

Flaig, P.P., and Sharman, G., 2016, Mixed tidally influenced fluvial and shallow-marine deposits of the Wilcox Formation: The Letco TOH-2AO Well, Leon County, Texas,

Flaig, P.P., Hasiotis, S.T., and Vallega, V., 2015, Facies, ichnology, and paleoenvironmental interpretation of the CB Long C-16 & Orsborn #7 core, Eastern Shelf of the Permian-Midland Basin, Texas.

Industry Contract Reports

Shuster, M.W., Flaig, P.P., Ko, L., Sabbagh, R., Eastwood, R., Duffy, O., McDaid, G., Yurchenko, I., Aschoff, J., Wartes, M., Zhang, J., and Lampe, C., 2020, Alaska, North Slope Upper Brookian Stratigraphy, Regional Petroleum Systems, and Fault Analyses: University of Texas at Austin, Bureau of Economic Geology, 213 p.

Shuster, M.W., Flaig, P.P., McDaid, G., Sabbagh, R., Yurchenko, I., LePain, D. L., Aschoff, J., Wartes, M., McCarthy, P.J., Zahm, C. K., and Zhang, 2019, Alaska, North Slope synthesis: Assessment of stratigraphy, reservoirs, and petroleum systems: University of Texas at Austin, Bureau of Economic Geology, 267 p.

Flaig, P.P., van der Kolk, D.A., and Hasiotis, S.T., 2012, A high-latitude shoreface to coastal-plain transition: The Schrader Bluff and Prince Creek Formations at Shivugak and Uluksrak Bluffs, Colville River, North Slope, Alaska, 97 p.

Dissertation and Thesis

Flaig, P.P., 2010, Depositional environments of the Late Cretaceous (Maastrichtian) dinosaur-bearing Prince Creek Formation: Colville River region, North Slope, Alaska, PhD Dissertation, The University of Alaska-Fairbanks, 311 p.

Flaig, P.P., 2005, Changing fluvial style across the Permian-Triassic boundary, Beardmore Glacier Region, Central Transantarctic Mountains, Antarctica: MSc. Thesis, The University of Wisconsin-Milwaukee, 288 p.

Teaching Experience

Post-PhD

Instructor (2023), UT Austin Summer Field Camp GEO660: Sedimentology/Stratigraphy Module, Book Cliffs, UT.

Co-leader, University of Wisconsin-Milwaukee (2020), 2 week sedimentology field course: Distributive fluvial, deltaic, coastal, and shelfal systems of the Cretaceous Western Interior Seaway, UT-CO. (Cancelled-Suspended due to Covid-19)

Instructor, GeoFORCE Texas (2010-present), UT Austin, 10th grade academy: Southwestern United States and the Grand Canyon, 1 week field course.

Co-leader, Texas State University (2016-present), Physical Geology, Historical Geology, and Sedimentology 1-Day Field Course: Geology and paleoenvironments of the Wilcox Formation in outcrops, Bastrop, Texas.

Co-leader, Texas State University (2017-present), Historical Geology, and Sedimentology 1-Day Field Course: Geology, ichnology, and depositional systems of the Glenn Rose Formation.

Instructor (2013-2016), UT Austin Summer Field Geology Course GEO660: Sedimentology Module, Book Cliffs and Rock Springs Uplift, CO, UT, WY.

Instructor, GeoFORCE Texas (2015), UT Austin, 12th Grade Academy: Rocky Mountains of Utah, Wyoming, and Montana.

Instructor, GeoFORCE Alaska (2012), University of Alaska-Fairbanks, 9th Grade Academy: Geology of Denali National Park, the Anchorage area, and Matanuska Glacier.

Pre-PhD

Teaching Assistant (2008), University of Alaska-Fairbanks: Sedimentology

Teaching Assistant (2008), University of Alaska-Fairbanks: The History of Life and Earth

Teaching Assistant (2006), University of Wisconsin-Milwaukee: The Dynamic Earth

Teaching Assistant (2002-2005), University of Wisconsin-Milwaukee: Introduction to the Earth

Teaching Assistant (2005), University of Wisconsin-Milwaukee: Earth Science for Teachers

Field Trip Leadership

Co-Leader, A Survey of the Wilcox Group from Integrated Core, Wireline, and Outcrop Studies: 1 day Field Course, September, 2021.

Co-Leader, Deltaic-paralic systems of the Cretaceous Western Interior Seaway: Sedimentology, ichnology, stratal architectures, and controls: 5 Day Field Course, September, 2019.

Co-Leader, Fluvial and coastal clastic sedimentology and ichnology in modern environments and core, Galveston, Texas, (SEPM), AAPG Annual Meeting and Exhibition, Houston, Texas, April 1-2, 2017 and AAPG Annual Meeting and Exhibition, San Antonio, Texas, May 17-18, 2019

Co-Leader, Wave, tide, and river-dominated systems of the Cretaceous Western Interior Seaway: The Kenilworth and Grassy Members of the Blackhawk, the Segoe, and the Loyd Formations, eastern Utah and northwestern Colorado, Quantitative Clastics Laboratory, Bureau of Economic Geology, September 2014.

Co-Leader, Transgressive systems tract reservoirs of the San Juan Basin, northwest New Mexico, Quantitative Clastics Laboratory, Bureau of Economic Geology, September 2013.

Co-Leader, Along-strike variability of a tidal shoreline system: Castlegate to Neslen Formations, northwestern Colorado to southwestern Wyoming, Quantitative Clastics Laboratory, Bureau of Economic Geology, September 2012.

Co-Leader, Tide and wave-influenced shoreline reservoirs of the San Juan Basin, northwest New Mexico and southern Colorado, U.S.A, Quantitative Clastics Laboratory, Bureau of Economic Geology, September 1-2, 2011.

Co-Leader, Brookian reservoirs of the North Slope, Alaska with a focus on the Campanian to Paleocene, FEX-Talisman Energy, Alaska, July 11-13, 2008.

Research Supervision

Postdoctoral Co-supervisor

Nikhil Sharma (2023-present): Wilcox Group

Frits Palacios (2023-Present) Strawn-Cisco Groups

Glenn Sharman, (September 2017-May 2018). PETM, Current position Associate Professor, University of Arkansas

Committee Co-Chair (Primary Supervisor*)

*MSc Committee, Isabel Johnson (incoming Fall 2024): Strawn Group

*MSc Committee, Katherine Garcia, UT Austin, (September 2021 – May 2023): Sedimentologic, stratigraphic, biostratigraphic, and isotopic characteristics of deposits of the Wilcox and Claiborne groups that cross the Paleocene-Eocene thermal Maximum, southeast Texas

*MSc Committee, Keri Belcher, UT Austin, (September 2016 – May 2019): Sedimentology, ichnology, architecture, and subsurface correlation of a detached shelf sand: The Blair Sandstone (Cretaceous), Rock Springs Uplift, Wyoming.

*MSc Committee, Ashlyn Murphy, UT Austin, (September 2015 – August 2017): Paleoenvironmental reconstruction of a heterogeneous, tidally influenced reservoir analogue: The Neslen Formation near Harley Dome, Utah.

*MSc Committee, Rebecca Jones, UT Austin, (September 2014 – August 2016): Comparative paleoenvironmental and architectural analyses of the Anchor Mine Tongue to Upper Segó interval along the Book Cliffs of Utah and the Rangeley Anticline of Colorado.

*MSc Committee, Timothy Prather, UT Austin, (September 2014 – May 2016): Identifying the nature and extent of the Loyd Sandstone Member of the Mancos Shale in the Rangeley area of Colorado.

MSc Committee, Jessica Hudock, UT Austin, (September 2011 – December 2013): Barrier island associated washover fan and flood tidal delta systems: a geomorphologic analysis and proposed classification scheme for modern washover fans and examination of a flood tidal delta complex in the Cretaceous Upper McMurray Formation, Alberta, Canada.

Committee Member

PhD Committee, Kristina Butler, UT Austin, (November 2017 – present): Partitioning of the Andean Retroarc Foreland basin during Cretaceous-Paleogene flat-slab subduction in northern Patagonia, Argentina: Stratigraphic architecture, provenance, and sediment routing.

PhD Committee, Cole Speed, UT Austin, (September 2018 – present): Outcrop analysis and modeling of 3D fluvial channel systems of the Cedar Mountain and Morrison Formations, Utah.

PhD Committee, Eunsil Jung, UT Austin, (November 2018 – present): Tidal sediment distribution associated with the shelf regression and transgression.

MSc Committee, Andrew Roberts, UT Austin, (September 2018 – May 2020): The Pennsylvanian Lower Strawn Group, Jack and Wise Counties, Fort Worth Basin: Facies distribution and stratigraphic architecture.

PhD Committee, Thomas Capaldi, UT Austin, (September 2015 – May 2018): Cenozoic provenance, paleodrainage, and foreland basin evolution during a shift to flat-slab subduction in the southern Andes, Argentina.

MSc Committee, Emily Beckham, UT Austin, (September 2016 – May 2018): CO₂ storage in deltaic environments of deposition: integration of three-dimensional modeling, outcrop analysis, and subsurface application.

PhD Committee, Amanda Calle, UT Austin, (September 2013 – August 2017): Andean and Pre-Andean basin evolution along the South American convergent margin: Insights from the Central Andes of Bolivia (19.5-22 Degrees South).

PhD Committee, Migdalys Salazar, UT Austin, (September 2010 – May 2014): The impact of shelf margin geometry and tectonics on shelf-to-sink sediment dynamics and resultant basin fill architectures.

Undergraduate Student Mentorship

Paige Pimentel, University of Wisconsin, Milwaukee, “LET’S GEO” (Learning Ecosystem for Training Student Geoscientists for Employment Opportunities, mentorship program funded by the National Science Foundation (October-December, 2023).

Logan Cantrell, UT Austin -Champions of Diversity Program (September 2021-September 2023): New insights on Upper Strawn Group mixed carbonate-clastic depositional system evolution from core of the Anne Tandy field, King County, TX.

Laura Arango, UT Austin -RTX Geoforce, (June-August 2021): Evaluating the evidence for a pulse of sedimentation across the Permian-Triassic boundary worldwide through literature review and basic modelling.

Sara Sepulvida, UT Austin, (September 2015-May 2016): Sedimentology and architecture of the Wilcox Formation in Freestone and Anderson Counties, TX.

Tim Prather, UT Austin (September 2013-May 2014): Quantifying crevasse splay geometries.

Major Research Programs-Campaigns

Bureau of Economic Geology, UT Austin, (2009-present): Controls on facies trends, ichnology, architecture, and stratal stacking in deposits of fluvial-deltaic-shelfal systems of the Cretaceous Western Interior Seaway of North America.

Bureau of Economic Geology, UT Austin, and University of Alaska-Fairbanks (2005-present): Assessment of Brookian stratigraphy to improve reservoir models, North Slope, Alaska.

Bureau of Economic Geology, UT Austin, (2016-present): Controls on facies and stacking trends across the Paleocene-Eocene boundary: A source to sink perspective (Hanna Basin, WY and Gulf of Mexico).

Bureau of Economic Geology, UT Austin, (2016-present): Controls on the facies, stratal architecture, and distribution of the Pennsylvanian Strawn Group, Eastern Shelf of the Permian Basin and Fort Worth Basin, Texas.

Bureau of Economic Geology, UT Austin, (2017-present): Depositional systems of the Woodbine formation (Cretaceous) along the margin of Appalachia: Placing paleontology and paleobotany within a paleoenvironmental perspective (in conjunction with the Perot Museum – Dallas).

Bureau of Economic Geology, UT Austin, (2009-2016): A high-latitude shallow-marine to coastal-plain transition: the Schrader Bluff and Prince Creek Formations at Shivugak and Uluksrak Bluffs and Ocean Point, Colville River, North Slope, Alaska.

Bureau of Economic Geology, UT Austin (2010-2011), Sedimentologist, National Science Foundation Office of Polar Programs project OPP/ANT 0944282: Paleoenvironmental and paleoclimatic analysis of the Beacon Supergroup, Beardmore Glacier Area, Central Transantarctic Mountains, Antarctica.

Research Assistant, Department of Geology and Geophysics, University of Alaska—Fairbanks (2005 - 2009): Collaborative Research: An ancient arctic dinosaur ecosystem from the Late Cretaceous Prince Creek Formation, North Slope, Alaska—a natural case study in a greenhouse climate model.

Sedimentologist, Bureau of Economic Geology, UT Austin (2009): The application of light detection and ranging (LiDAR) to quantify sandbody geometries, improve net/gross calculations, and develop subsurface correlations: Sagwon Bluffs, North Slope, Alaska.

Geologist, Alaska Division of Geological and Geophysical Surveys (2008). Reconnaissance for geologic mapping of the Sagavanirktok Quadrangle, North Slope, Alaska.

Geologist (internship), FEX/Talisman Energy, Alaska (2008). Regional geology and reservoir potential of late Cretaceous to early Tertiary deposits of the central North Slope, Alaska.

Research Assistant, Department of Geosciences, University of Wisconsin—Milwaukee (2002 - 2005). Late Paleozoic–Mesozoic fauna, environment, climate, and basinal history, Beardmore Glacier Area, Central Transantarctic Mountains, Antarctica.

Funding

Total external funds contribution 2010-present: \$ 2,410,320

<u>Year</u>	<u>Role</u>	<u>Project</u>	<u>Total</u>
2023	State of Texas Advanced Resource Recovery	Pennsylvanian Strawn Group, Paleocene-Eocene Wilcox Group, Cretaceous Woodbine Formation	TBD
2022	State of Texas Advanced Resource Recovery	Pennsylvanian Strawn Group, Paleocene-Eocene Wilcox Group, Cretaceous Woodbine Formation	\$216,969
2021	State of Texas Advanced Resource Recovery	Pennsylvanian Strawn Group, Paleocene-Eocene Wilcox Group, Cretaceous Woodbine Formation	\$222,000

2020	State of Texas Advanced Resource Recovery	Pennsylvanian Strawn Group, Permian Basin and Fort Worth Basin, Texas	\$310,800
2019	State of Texas Advanced Resource Recovery	Pennsylvanian Strawn Group, Permian Basin and Fort Worth Basin, Texas	\$219,607
2019	Co-Principal Investigator	Quantitative Clastics Laboratory	\$61,200
2018	Co-Principal Investigator	Alaska, North Slope Synthesis: Assessment of Stratigraphy, Reservoirs, and Petroleum Systems, ENI Petroleum	\$75,000
2018	Co-Principal Investigator	Quantitative Clastics Laboratory	\$77,250
2017	Co-Principal Investigator	Quantitative Clastics Laboratory	\$43,200
2016	Co-Principal Investigator	Quantitative Clastics Laboratory	\$112,500
2015	Principal Investigator	Quantitative Clastics Laboratory	\$360,000
2014	Co-Principal Investigator	Quantitative Clastics Laboratory	\$191,000
2013	Co-Principal Investigator	Quantitative Clastics Laboratory	\$124,000
2013	Principal Investigator	Marathon Oil Research Grant: A Potential Washover Fan in the McMurray Formation, Alberta, Canada	\$48,000
2012	Co-Principal Investigator	Quantitative Clastics Laboratory	\$67,500
2011	Co-Principal Investigator	Quantitative Clastics Laboratory	\$40,500
2011	Principal Investigator	BP Alaska Research Grant: Nature, Evolution, and Ichnology of Fluvial-Deltaic and Shallow-Marine Reservoir Analogues in Campanian-Maastrichtian Clastic Wedges of Arctic Alaska	\$75,000
2010	Principal Investigator	ConocoPhillips Research Grant: A High-Latitude Shoreface to Coastal-Plain Transition: The Schrader Bluff and Prince Creek Formations, Shivugak and Uluksrak Bluffs, Colville River, North Slope, Alaska	\$25,000
2010	Principal Investigator	BP Alaska research Grant: A High-Latitude Shoreface to Coastal-Plain Transition: The Schrader Bluff and Prince Creek Formations, Shivugak and Uluksrak Bluffs, Colville River, North Slope, Alaska	\$50,000

Internal Funding

2014, 2015, 2016: Bureau of Economic Geology Grants and Awards Committee, Career Development Publication Award: Salary equivalent – 3 months.

External Funding Proposals

None at this time

Published Abstracts (n=129)

- Flaig, P.P., Garcia, K., Denison, C., Demchuk, T., Spangenberg, J., Campion, N., Adatte, T., Castletort, S., and Moscardelli, L., 2024 (Accepted), Evidence for the Paleocene–Eocene Thermal Maximum in outcrops, Bastrop County, Central Texas: GeoGulf, San Antonio, TX.
- Flaig, P.P., Herriott, T., Wartes, M.A., and van der Kolk, D.A., 2024 (Accepted), Characteristics of marine versus continental deposits in the Campanian Arctic: Examples from the Prince Creek–Schradler Bluff transition, Toolik River, North Slope, Alaska: SEPM International Sedimentary Geosciences Congress, Flagstaff, AZ.
- Flaig, P.P., Garcia, K., Denison, C., Demchuk, T., Spangenberg, J., Campion, N., Adatte, T., Castletort, S., and Moscardelli, L., 2024 (Accepted), Evidence for the Paleocene–Eocene Thermal Maximum in outcrops, onshore Texas: SEPM International Sedimentary Geosciences Congress, Flagstaff, AZ.
- Contreras, D., Zippi, P., Jacobs, B., Flaig, P., and Henk, B. 2024 (Accepted), Reconstructing the coastal vegetation of Cenomanian southwestern Appalachia: An integrated study of plant fossils and sediments of the Lewisville Formation (Woodbine Group), Dallas-Fort Worth Texas, USA.: XI International Organisation of Palaeobotany Conference (IOPC), Prague, Czech Republic.
- Druckenmiller, P.S., Johnson, K., Ramezani, J., Tsukui, K., McCarthy, P.J., Perry, Z., Flaig, P.P., van der Kolk, D., Brown, C., and Erikson, G.M., 2023, First U-PB CA-ID-TIMS age constraints on Polar Dinosaurs from the Prince Creek Formation, northern Alaska: Society of Vertebrate Paleontologist Annual Meeting, Cincinnati, Ohio.
- Garcia, K.G., Flaig, P.P., Denison, C.N., Demchuk, T.D., Adatte, T., Castletort, S., and Moscardelli, L., 2023, Characteristics of the Sabinetown (Wilcox Group) to Carrizo (Claiborne Group) transition across the Paleocene Eocene Thermal Maximum in outcrops, Bastrop, TX: Jackson School of Geosciences Student Research Symposium, Austin, TX.
- Contreras, D., Noto, C., Flaig, P.P., Zippi, P., Lorenta, A.A., Andrzejewski, K., Tykoski, R., and Englehart, N.L., 2023, Deciphering the Woodbine Group (Late Cretaceous); Cenomanian) outcrops of the Dallas – Fort Worth metroplex: New data and new horizons: Mesozoic Terrestrial Ecosystems, Salt Lake City, UT.
- Flaig, P.P., Hattori, K.E., Hasiotis, S.T., Boucher, L., Buntin, C., Roberts, A., Lorente, M.A., and Moscardelli, L., 2023, Complex clastics and associated carbonates of the Strawn Formation: Re-evaluation of deposystem interpretations from core and outcrop-based investigations: American Association of Petroleum Geologists SW Section meeting, Wichita Falls, TX
- Flaig, P.P., Denison, C.N., Ambrose, W.A., and Demchuk, T.D., 2023, Outcrop evidence for variable channel-floodplain facies and stratal architectures across the Simsboro to Calvert Bluff transition, Wilcox Group, Butler, Texas: GeoGulf 2023, Houston, TX.
- Garcia, K., Flaig, P.P., Denison, C.N., and Demchuk, T.D., 2023, The Paleocene-Eocene Thermal Maximum in outcrops near Bastrop, Texas: Sedimentology, ichnology, biostratigraphy, and $\delta^{13}C$ isotopes: GeoGulf 2023, Houston, TX.
- Flaig, P.P., van der Kolk, D.A., Herriott, T., and Wartes, M., 2022, Incorporating digital imaging techniques into outcrop investigations of Alaska’s North Slope stratigraphy: Geological Society of America Annual Meeting, Denver, Colorado.
- Flaig, P.P., Hasiotis, S.T., Ambrose, W.A., Hattori, K., and Dejarnett, B., 2021, The importance of integrating sedimentology and ichnology to accurately interpret the spatial-temporal relationships of mixed carbonate-clastic coastal-shelfal depositional systems: Pennsylvanian (Desmoinesian) Strawn Group, Texas: Geological Society of America annual meeting and exhibition, Portland, Oregon.
- Wroblewski, A, Flaig, P.P., and Hasiotis, S.T., 2021, The present is the key to the past, as long as the past looked like the present: Bayhead deltas and back-barrier systems in time and space: Geological Society of America annual meeting and exhibition, Portland, Oregon.
- Roberts, A.K., Ambrose, W.A., Flaig, P.P., Steel, R.J., and Olariu, C., 2021, Controls on facies variability and distribution during the Pennsylvanian glacial period from the Lower Strawn Group,

- Fort Worth Basin, TX: Southwest Section of American Association of Petroleum Geologists Annual Meeting, Ft. Worth, Texas.
- Flaig, P.P., Hasiotis, S.T., Ambrose, W.A., and Carr, D., 2021: Interfingering flood tidal delta and bayhead delta deposits of the Upper Strawn Group, Permian Basin: An evolutionary model of a mixed carbonate-clastic deltaic backbarrier system: American Association of Petroleum Geologists Annual Convention, Denver, CO (pulled -Covid).
- Denison, C., Demchuk, T., Ambrose, W.A., and Flaig, P.P., (2021), Tidal deposition in the Wilcox/Carrizo of Texas: Implications of a new concept in a mature area: American Association of Petroleum Geologists Annual Convention, Denver, CO.
- Flaig, P.P., Hasiotis, S.T., van der Kolk, D.A., Prather, T., and Jones, R., (2021 – accepted: postponed), Integrated sedimentologic and ichnologic response to variations in fluvial-flood and tidal processes in select ancient delta deposits: Changing characteristics versus relative controls: SEPM International Sedimentary Geosciences Congress Meeting, Flagstaff, Arizona.
- Flaig, P.P., Hasiotis, S.T., van der Kolk, D.A., Prather, T., and Jones, R., 2020 (accepted: Cancelled Covid-19), Integrated ichnologic and sedimentologic response to increasing tidal influence and decreasing fluvial-flood processes in select ancient delta deposits: Changing characteristics versus relative controls: SEPM International Sedimentary Geosciences Congress Meeting, Flagstaff, Arizona.
- Isbell, J., Ives, L., and Flaig, P.P., 2020 (accepted: Cancelled Covid-19), Permo-Triassic evolution of the Transantarctic Basin: Did climate change, accommodation, and/or floral extinction at the Permian-Triassic boundary drive environmental change and landscape evolution?: SEPM International Sedimentary Geosciences Congress Meeting, Flagstaff, Arizona.
- Hasiotis, S.T., Flaig, P.P., van der Kolk, D.A., and Fiorillo, A., 2020 (accepted: Cancelled Covid-19), Comparing ichnopedologic signatures of high-to-low-latitude continental deposits in the deep-time record: Examples from late-Paleozoic to Mesozoic: SEPM International Sedimentary Geosciences Congress Meeting, Flagstaff, Arizona.
- Armitage, D.A., and Flaig, P.P., 2020 (accepted: Cancelled Covid-19), Predictive stratigraphy in shallow-marine environments: SEPM International Sedimentary Geosciences Congress Meeting, Flagstaff, Arizona.
- Butler, K.L., Horton, B.K., and Flaig, P.P., 2020 (accepted: Cancelled Covid-19), The Cretaceous-Tertiary boundary stratigraphy in Patagonia: Pasa del Sapo to Lefipan Formations: SEPM International Sedimentary Geosciences Congress Meeting, Flagstaff, Arizona.
- Speed, C.M., Sylvester, Z., Flaig, P.P., Durkin, P., and Goudge, T.A., 2020 (accepted: Cancelled Covid-19), Relating the geomorphology and stratigraphy if an ancient fluvial avulsion node: Ana example from the Cretaceous Cedar Mountain Formation, eastern Utah, USA: SEPM International Sedimentary Geosciences Congress Meeting, Flagstaff, Arizona.
- Flaig, P.P., and van der Kolk, D.A., 2020 (accepted: Cancelled Covid-19), A composite unconformity in Upper Cretaceous strata on the North Slope of Alaska: Characteristics and implications: American Association of Petroleum Geologists Annual Convention and Exhibition, Houston, Texas.
- Bonelli, J.R., and Flaig, P.P., 2020, A quantitative biofacies analysis of Upper Cretaceous (Maastrichtian) palynological assemblages of the Prince Creek Formation, North Slope Alaska, USA: American Association of Petroleum Geologists Annual Convention and Exhibition, Houston, Texas.
- Speed, C.M., Sylvester, Z., Flaig, P.P., Durkin, P., and Goudge, T.A., 2020 (accepted), 3-D stratigraphic architecture of a cretaceous fluvial avulsion node, eastern Utah, USA: American Geophysical Union Annual Convention and Exhibition, San Francisco, California.
- Roberts, A., Ambrose, W.A., and Flaig, P.P., 2020, The Pennsylvanian Lower Strawn Formation, Fort Worth Basin: Facies distribution and stratigraphic architecture: American Association of Petroleum Geologists Annual Convention and Exhibition, Houston, Texas.
- Hasiotis, S.T., Platt, B.F., and Flaig, P.P., 2020, Continental mega-ichnology- trace fossils as proxies for the roles of organisms as a major soil-forming factor and as ecosystem engineers of the critical zone through deep time: Joint 69th Annual Geological Society of America Southeastern / 55th Annual Northeastern Section Meeting, Reston, Virginia.
- Flaig, P.P., Ambrose, W.A., and Hasiotis, S.T., 2020 (accepted), The relationship of coastal-shelfal tidal systems to ramp carbonates in the Upper Strawn revealed from core and wireline logs in Stonewall and King Counties, Permian Basin, Texas: Geological Society of America 54th Annual South-Central Section Meeting, Fort Worth, Texas.

- Roberts, A., Ambrose, W.A., and Flaig, P.P., 2020 (accepted), The Pennsylvanian Lower Strawn Formation, Jack and Wise Counties, Fort Worth Basin: Facies distribution and stratigraphic architecture: Geological Society of America 54th Annual South-Central Section Meeting, Fort Worth, Texas.
- Speed, C.M., Sylvester, Z., Flaig, P.P., Durkin, P., and Goudge, T.A., 2019, Relating the fluvial avulsion process to channel-belt stratigraphic architecture: An example from the Cedar Mountain Formation, Utah: American Geophysical Union Annual Convention and Exhibition, San Francisco, California.
- Buntin, R.C.C., Hasiotis, S.T., and Flaig, P.P., 2019, Evaluating the ichnofossil *Teredolites* as an indicator of salinity and paleoenvironment in the geological record, examples from Cretaceous strata Kansas, Colorado, Utah: Geological Society of America South Central/North Central/Rocky Mountain Section Meeting, Manhattan, Kansas.
- Flaig, P.P., Hasiotis, S.T., and Prather, T., 2019, Comparative analysis of internal characteristics of delta front deposits of the Loyd Sandstone (Campanian) near Rangely, Colorado, Panther Tongue of the Star Point Formation, Helper, Utah, and Lower Segoe near Floy Canyon: Controls versus reservoir properties: American Association of Petroleum Geologists Annual Convention and Exhibition, San Antonio, Texas.
- Belcher, K.L., Flaig, P.P., and Steel, R.J., 2019, Outcrop and subsurface characteristics of tidally modified shelf edge delta and upper slope deposits of the Blair Formation, Rock Springs Uplift, Wyoming: American Association of Petroleum Geologists Annual Convention and Exhibition, San Antonio, Texas.
- Speed, C.M., Sylvester, Z., Flaig, P.P., Durkin, P., Cardenas, B.T., and Goudge, T.A., 2019, Stratigraphic architecture of exhumed fluvial channel-belts: Anatomy of an avulsion: American Association of Petroleum Geologists Annual Convention and Exhibition, San Antonio, Texas.
- Butler, K.L., Horton, B.K., Flaig, P.P., Echaurren, A., and Folguera, A., 2018, Partitioning of the Andean Retroarc Foreland Basin During Cretaceous-Paleogene Flat-Slab Subduction in Northern Patagonia, Argentina: Stratigraphic Architecture, Provenance, and Sediment Routing. Poster Presentation: Geological Society of America Annual Meeting, Indianapolis, Indiana.
- Senger, K., Jansen, M., Hakanasson, L., Buckley, S., Naumann, N., Mertens, M., Forien, M., Eide, C., Lecomte, I., Nordmo, I., Rabbal, O., Mair, K., Galland, O., Malm, R., Ogata, K., Mulrooney, M., Smyrak-Sikora, A., Guarnieri, P., Stemmerik, L., Coakley, B., Flaig, P., Gongaza da Silveira, L., and Nolde, N. (2018), Circum-Arctic Geology for Everyone: Using Virtual Fieldtrips to Bring the High Arctic Closer to the World, Oral Presentation: UARCTIC Congress 2018, Helsinki, Finland
- Beckham, E. C., Meckel, T., and Flaig, P.P., 2018, Investigating deltaic architecture and reservoir connectivity for CO₂ storage and migration: Integrated perspectives from physical flume experiments, outcrop analogs, and subsurface mapping: Greenhouse Gas Technologies Convention, Melbourne, Australia.
- Butler, K.L., Horton, B.K., Flaig, P.P., Echaurren, A., and Folguerra, A., 2018, Partitioning of the Andean Retroarc Foreland Basin during Cretaceous-Paleogene flat-slab subduction in northern Patagonia, Argentina: Stratigraphic architecture, provenance, and sediment routing: Geological Society of America Annual Meeting, Indianapolis, Indiana.
- Flaig, P.P., Sharman, G.R., Wroblewski, A.F., and Covault, J., 2018, Controls on fluvial and lacustrine facies and stacking patterns of the Paleocene-Eocene Hanna Formation. Hanna Basin, Wyoming: American Association of Petroleum Geologists Annual Convention and Exhibition, Salt Lake City, Utah.
- Murphy, A.V., Flaig, P.P., and Hasiotis, S.T., 2018, Estuarine deposits of the Neslen Formation near Harley Dome, Book Cliffs, Utah: An outcrop analogue for heterolithic, tidally modified estuarine channels and tidal flats: American Association of Petroleum Geologists Annual Convention and Exhibition, Salt Lake City, Utah.
- Sharman, G.R., Flaig, P.P., Fosse-Durham, P., Larson, T., and Covault, J., 2018, The catchment-integrated response to rapid climatic warming during the Paleocene-Eocene Thermal Maximum: Wilcox and Claiborne Groups, Gulf Coast, USA: American Association of Petroleum Geologists Annual Convention and Exhibition, Salt Lake City, Utah.
- Buyenevich, I.V., Hasiotis, S.T., Weist, L.A., and Flaig, P.P., 2017, Vanished with a trace: Ichnological applications to extinction-recovery research: Geological Society of America Annual Meeting, Seattle, Washington.

- Calle, A.Z., Horton, B.K., Garcia-Duarte, R., and Flaig, P.P., 2017, Neoproterozoic-Paleozoic tectonics and paleogeography of the West-Central South America convergent margin from detrital zircon geochronology: Geological Society of America Annual Meeting, Seattle, Washington.
- Flaig, P.P., and van der Kolk, D.A., 2017, Autogenic vs. allogenic driven facies and architectural changes at the Schrader Bluff-Prince Creek transition, Shivugak-Uluksrak Bluffs, North Slope, Alaska: American Association of Petroleum Geologists Pacific Section Meeting, Anchorage, Alaska.
- Flaig, P.P., van der Kolk, D.A., Hasiotis, S.T., and McCarthy, P.J., 2017, Controls on the evolution of Late Cretaceous to Paleocene coastal to deltaic systems of the Prince Creek and Schrader Bluff Formations, North Slope of Alaska: American Association of Petroleum Geologists Annual Convention and Exhibition, Houston, Texas.
- Hasiotis, S.T., and Flaig, P.P., 2017, Vertebrate burrows of the Lower Triassic Fremouw Formation, Beardmore and Shackleton Glaciers, Central Transantarctic Mountains, Antarctica: Comparisons to other Gondwanan and Laurentian examples: 2nd International Conference on Continental Ichnology, Nuy Valley, South Africa.
- McCarthy, P.J., Fiorillo, A.R., Kobayashi, Y., Tanaka, T., Tomsich, C.S., Flaig, P.P., and Salazar-Jaramillo, S., 2017, A Late Cretaceous high-latitude paleoenvironmental and paleoecological transect across greenhouse Alaska: a comparison of the Chignik, Lower Cantwell, and Prince Creek Formations, Alaska, USA: Geological Society of America Annual Meeting, Seattle, Washington.
- Murphy, A.V., Flaig, P.P., and Hasiotis, S.T., 2017, Paleoenvironmental reconstruction and geocellular model of a heterogeneous reservoir analogue: the Segoe-Neslen Formation transition near Harley Dome, Book Cliffs, Utah: American Association of Petroleum Geologists Annual Convention and Exhibition, Houston, Texas.
- Sharman, G., Covault, J., Flaig, P.P., Stockli, D., and Miranda, V., 2017, Tectonic stratigraphy of the Laramide Denver Basin foreland: insights from detrital zircon U-Pb geochronology: Geological Society of America Abstracts with Programs, v. 49, no. 1, <http://doi.org/10.1130/abs/2017SC-289369>.
- van der Kolk, D.A., Flaig, P.P., and Hasiotis, S.T., 2017, Preliminary ichnology, sedimentology, and stratigraphy of the Maastrichtian Prince Creek and upper Schrader Bluff Formations at Ocean Point, National Petroleum Reserve, Alaska: American Association of Petroleum Geologists, Pacific Section Meeting, Anchorage, Alaska.
- van der Kolk, D.A., Flaig, P.P., and Hasiotis, S.T., 2017, Sedimentology and stratigraphy of the lower Schrader Bluff and Prince Creek Formations at Shivugak Bluffs, National Petroleum Reserve, Alaska: American Association of Petroleum Geologists, Pacific Section Meeting, Anchorage, Alaska.
- Flaig, P.P., Hasiotis, S.T., van der Kolk, D.A., and Jackson, A.M., 2016, Integrating sedimentology and ichnology in the Beacon Supergroup, Central Transantarctic Mountains, Antarctica, to clarify paleoenvironmental interpretations and refine basin analysis: American Association of Petroleum Geologists Annual Convention and Exhibition, Calgary, Alberta, Canada.
- Flaig, P.P., Hasiotis, S.T., van der Kolk, D.A., McCarthy, P.J., Fiorillo, A.R., Suarez, C., and Jackson, A.M., 2016, Characteristics and controls on high latitude sedimentation in the Cretaceous of Alaska and the Permian of Antarctica: Geological Society of America Annual Meeting, Denver, Colorado.
- Flaig, P.P., Hasiotis, S.T., van der Kolk, D.A., Prather, T., Jones, R.H., Ambrose, W.A., and Loucks, R.G., 2016, Combining sedimentology and ichnology to refine paleoenvironmental interpretations in fluvial-deltaic-shallow-marine clastic systems: Geological Society of America Annual Meeting, Denver, Colorado.
- Flaig, P.P., van der Kolk, D.A., Hasiotis, S.T., and Prather, T., 2016, Comparative analysis of ancient mouth bars and subaqueous terminal distributary channels in three deltas: the Permian Mackellar Formation of Antarctica, the Cretaceous Schrader Bluff Formation of Arctic Alaska, and the Cretaceous Loyd Formation of Colorado: American Association of Petroleum Geologists International Convention and Exhibition, Barcelona, Spain.
- Jones, R.H., Flaig, P.P., and Hasiotis, S.T., 2016, Importance of ichnology in defining paleoenvironments along an ancient complex coastline: the Anchor Mine Tongue and Upper Segoe equivalent of Rangely, Colorado: Geological Society of America Annual Meeting, Denver, Colorado.
- McCarthy, P.J., Fiorillo, A.R., Tomsich, C.S., Flaig, P.P., Salazar-Jaramillo, S., Wright, T.C., Kobayashi, Y., Fowell, S.J., and Benowitz, J., 2016, A regional high-latitude paleoclimatic and paleoecological transect: comparison of Late Cretaceous lower Cantwell (Denali National Park) and Prince Creek

- (North Slope) Formations, Alaska, USA: Centennial Science and Stewardship Symposium, National Park Service, Alaska Region, Fairbanks, Alaska.
- Murphy, A.V., and Flaig, P.P., 2016, An integrated, high-resolution sedimentologic, ichnologic, and geocellular modelling study of the Sege-Neslen Transition, Book Cliffs, Utah: Geological Society of America Annual Meeting, Denver, Colorado
- Prather, T., Flaig, P.P., and Hasiotis, S.T., 2016, The potential temporal significance of a high-abundance, high-diversity ichnologic assemblage in an otherwise apparently river dominated deltaic succession: The Cretaceous Loyd Delta, Rangely, Colorado: American Association of Petroleum Geologists Annual Convention and Exhibition, Calgary, Alberta, Canada.
- van der Kolk, D.A., Flaig, P.P., and Hasiotis, S.T., 2016, Stratigraphic architecture, sedimentology, and ichnology of Late Cretaceous storm-flood, river dominated deltas vs. storm dominated deltas: American Association of Petroleum Geologists Annual Convention and Exhibition, Calgary, Alberta, Canada.
- van der Kolk, D.A., Flaig, P.P., and Hasiotis, S.T., 2016, Stratigraphic evolution of a paleopolar topset-clinoform system: Upper Cretaceous Schrader Bluff - Prince Creek Formations, Arctic Alaska, USA: American Association of Petroleum Geologists International Convention and Exhibition, Barcelona, Spain.
- Woolf, K.S., Wood, L.J., and Flaig, P.P., 2016, Facies analysis and depositional systems of the Cenomanian-Turonian Lower Tuscaloosa Formation, Gulf of Mexico (abs.): 36th Annual GCSSEPM Foundation Perkins-Rosen Research Conference, Houston, Texas.
- Flaig, P.P., Hasiotis, S.T., and Jackson, A.M., 2015, An Early Permian, post-glacial, river-dominated, paleopolar delta: hyperpycnites and shelf channels at the Mackellar-Fairchild transition, Turnabout Ridge, Central Transantarctic Mountains, Antarctica: American Association of Petroleum Geologists International Convention and Exhibition, Melbourne, Australia.
- Flaig, P.P., Hasiotis, S.T., Prather, T., and Jackson, A.M., 2015, A tale of two deltas: comparative analysis of ancient "river-dominated" deltaic systems from outcrops of the Permian in Antarctica and the Cretaceous of Colorado: Geological Society of America Annual Meeting, Baltimore, Maryland.
- Flaig, P.P., van der Kolk, D.A., and Hasiotis, S.T., 2015, Heterogeneities in strata of the Cretaceous Prince Creek Formation driven by paleoenvironmental conditions on the coastal plain of Arctic Alaska: effects on reservoir quality and geometries: Geological Society of America Cordilleran Section - 111th Annual Meeting, Anchorage, Alaska.
- Hasiotis, S.T., and Flaig, P.P., 2015, Latitudinal controls on the distribution of trace fossils and resultant textures in continental deposystems: a comparison of Triassic continental deposits from the Chinle Formation (Colorado Plateau, USA) and the Fremouw Formation (Beardmore Glacier area, Antarctica): First International Congress on Continental Ichnology, El Jadida, Morocco.
- Hasiotis, S.T., Flaig, P.P., and Jackson, A.M., 2015, Marine and continental ichnology of Permian-Triassic high-latitude depositional systems during greenhouse conditions: Victoria Group (Beacon Supergroup), Central Transantarctic Mountains, Antarctica: American Association of Petroleum Geologists International Convention and Exhibition, Melbourne, Australia.
- Hasiotis, S.T., Gingras, M.K., Halfan, A.H., Jackson, A.M., Flaig, P.P., and van der Kolk, D.A., 2015, Latitudinal distribution of trace fossils in continental and marine depositional systems: controls, trends, and caveats: American Association of Petroleum Geologists Annual Convention and Exhibition, Denver, Colorado.
- Hasiotis, S.T., van der Kolk, D.A., and Flaig, P.P., 2015, Ichnology of the Schrader Bluff-Prince Creek Formations at Shivugak Bluffs, North Slope of Alaska: Geological Society of America Cordilleran Section - 111th Annual Meeting, Anchorage, Alaska.
- Jones, R.H., Flaig, P.P., and Hasiotis, S.T., 2015, Paleoenvironments of Anchor Mine Tongue and Upper Sege equivalent strata in the Rangely area of Colorado: tidally influenced deposits and variable ichnology along a complex coastline: Geological Society of America Annual Meeting, Baltimore, Maryland.
- McCarthy, P.J., Fiorillo, A.R., Tomsich, C.S., Flaig, P.P., Salazar-Jaramillo, S., Wright, T.C., Kobayashi, Y., Fowell, S.J., and Benowitz, J., 2015, A regional north-south high-latitude paleoclimatic and paleoecological transect: comparison of the Late Cretaceous (Maastrichtian) Prince Creek and Lower Cantwell Formations, Alaska, USA: Geological Society of America Cordilleran Section - 111th Annual Meeting, Anchorage, Alaska.

- McCarthy, P.J., Fiorillo, A.R., Tomsich, C.S., Flaig, P.P., Salazar-Jaramillo, S., Wright, T.C., Kobayashi, Y., Fowell, S.J., and Benowitz, J., 2015, Regional variability across a Late Cretaceous (Maastrichtian) Arctic greenhouse critical zone: a comparative assessment of the Prince Creek and Lower Cantwell Formations, Alaska, USA: Geological Society of America Annual Meeting, Baltimore, Maryland.
- Moore, S., Paine, J.G., Caudle, T., Costley, R., Flaig, P.P., Frébourg, G., and Scanlon, B. R., 2015, The approach and success of the GeoFORCE program at the Jackson School of Geosciences for closing the diversity gap in geosciences (abs.): Geological Society of America Abstracts with Programs, v. 47, no. 7, p. 108.
- Prather, T., Flaig, P.P., and Hasiotis, S.T., 2015, Should a "typical" river-dominated delta with a high-diversity trace fossil assemblage be classified as river-dominated? A combined stratigraphic, architectural, and ichnologic analysis of the Loyd Sandstone (Late Cretaceous) near Rangely, Colorado: American Association of Petroleum Geologists Annual Convention and Exhibition, Denver, Colorado.
- van der Kolk, D.A., Flaig, P.P., and Hasiotis, S.T., 2015, Clastic sedimentology, stratal architecture, and preliminary sequence stratigraphic framework of Upper Cretaceous shelf, shoreface, and fluvio-deltaic deposits, Shivugak Bluffs, North Slope of Alaska: Geological Society of America Cordilleran Section - 111th Annual Meeting, Anchorage, Alaska.
- van der Kolk, D.A., Flaig, P.P., and Hasiotis, S.T., 2015, The Schrader Bluff-Prince Creek Formation transition at Shivugak Bluffs: a paleoenvironmental reconstruction of a muddy, polar deltaic system from Late Cretaceous Arctic Alaska: Geological Society of America Cordilleran Section - 111th Annual Meeting, Anchorage, Alaska.
- White, J.G., Hasiotis, S.T., Vallega, V., and Flaig, P.P., 2015, Reconstruction of paleoenvironments through integrative sedimentology and ichnology from core and formation micro-imager (FMI) logs in the Kinder Morgan Katz Field Unit, North-Central Texas: American Association of Petroleum Geologists Annual Convention and Exhibition, Denver, Colorado.
- Dunlap, D., Flaig, P.P., Burton, D., Prather, T., and Wood, L.J., 2014, Integration of remote sensing outcrop data and subsurface information to define high-resolution lithologic facies variability within interbedded sandstones of the Upper Cretaceous Mancos Shale of western Colorado: American Association of Petroleum Geologists Hedberg Conference on Visualization Techniques, Houston, Texas.
- Fiorillo, A.R., McCarthy, P.J., and Flaig, P.P., 2014, Niche partitioning between the two Dinosaurian megaherbivores *Edmontosaurus* and *Pachyrhinosaurus* in the Cretaceous Arctic North Slope, Alaska (Prince Creek Formation: Early Maastrichtian): Society of Vertebrate Paleontologists Annual Meeting, Berlin, Germany.
- Flaig, P.P., Burton, D., Wood, L.J., 2014, Identifying the nature and extent of the Loyd Sandstone member of the Mancos Shale in outcrop and subsurface data in the Rangely area of Colorado: American Association of Petroleum Geologists Annual Convention and Exhibition, Houston, Texas.
- Flaig, P.P., McCarthy, P.J., Fiorillo, A.R., van der Kolk, D.A., and Salazar-Jaramillo, S., 2014, A high-latitude signature evidenced by distinctive, recurring facies and sedimentary-pedogenic structures in the Late Cretaceous Prince Creek Formation, North Slope of Alaska, USA: American Association of Petroleum Geologists /SEPM Hedberg Research Conference: Latitudinal Controls on Stratigraphic Models and Sedimentary Concepts, Banff, Alberta, Canada.
- Hasiotis, S.T., Gingras, M.K., Halfan, A.H., Jackson, A.M., Flaig, P.P., and van der Kolk, D.A., 2014, Latitudinal controls and caveats on the distribution of trace fossils and their resultant textures in continental and marine depositional systems: American Association of Petroleum Geologists /SEPM Hedberg Research Conference: Latitudinal Controls on Stratigraphic Models and Sedimentary Concepts, Banff, Alberta, Canada.
- Hasiotis, S.T., Jackson, A.M., Flaig, P.P., Isbell, J., 2014, Ichnocoenoses and ichnofacies of marine and continental deposits in Permian-Triassic strata of the Beacon Supergroup, Beardmore Glacier area, Central Transantarctic Mountains, Antarctica: American Association of Petroleum Geologists Annual Convention and Exhibition, Houston, Texas.
- Hudock, J.W., Flaig, P.P., Wood, L.J., 2014, Complex Cretaceous shorelines existed during deposition of the McMurray Formation of Alberta, Canada as evidenced by bedrock-controlled estuaries and associated flood tidal deltas in the Upper McMurray Formation: American Association of Petroleum Geologists Annual Convention and Exhibition, Houston, Texas.

- van der Kolk, D.A., Flaig, P.P., and Hasiotis, S.T., 2014, In pursuit of a high-latitude signature during the Late Cretaceous greenhouse: a comparison between shallow marine storm deposits in the Schrader Bluff Formation, Alaska and the Kenilworth and Grassy Members of the Blackhawk Formation, Utah: American Association of Petroleum Geologists /SEPM Hedberg Research Conference: Latitudinal Controls on Stratigraphic Models and Sedimentary Concepts, Banff, Alberta, Canada.
- White, J.G., Flaig, P.P., Hasiotis, S.T., and Over, D.J., 2014, Reconstruction of paleoenvironments through integrative sedimentology and ichnology of the Pennsylvanian Strawn Formation in the Katz Field, North-Central Texas: Southwest Section of the American Association of Petroleum Geologists Annual Meeting, Midland, Texas.
- White, J.G., Vallega, V., Flaig, P.P., and Hasiotis, S.T., 2014, Preliminary lithofacies interpretation from formation micro-imager (FMI) logs in the Kinder Morgan Katz Field Unit, North-Central Texas: West Texas Geological Society Annual Fall Symposium, Midland, Texas.
- Flaig, P.P., Hasiotis, S.T., Isbell, J.L., and Jackson, A., 2013, River-dominated deltas of the Mackellar Formation at Turnabout Ridge, Central Transantarctic Mountains, Antarctica: Hyperpycnal flows and highly-stressed conditions: 10th International Conference on Fluvial sedimentology, Leeds, UK.
- Flaig, P.P., Hasiotis, S.T., Isbell, J.L., and Sieger, D.N., 2013, Sedimentology and ichnology of Permian-Triassic strata at Lamping Peak, Central Transantarctic Mountains, paleopolar forests, lakes, and braided rivers in a greenhouse world: Geological Society of America Annual Meeting, Minneapolis, Minnesota.
- Flaig, P.P., Hasiotis, S.T., Jackson, A.M., and Isbell, J.L., 2013, Lower Permian Antarctic marine deltas of the Mackellar Formation: Turnabout Ridge, Beardmore Glacier Region, Central Transantarctic Mountains, Antarctica: American Association of Petroleum Geologists Annual Convention and Exhibition, Pittsburgh, Pennsylvania.
- Flaig, P.P., Hasiotis, S.T., Jackson, A., and Isbell, J.L., 2013, Lower Permian Antarctic marine deltas of the Mackellar Formation: Turnabout Ridge, Beardmore Glacier Region, Central Transantarctic Mountains, Antarctica: American Association of Petroleum Geologists Annual Convention and Exhibition, Pittsburgh, Pennsylvania.
- Hasiotis, S.T., and Flaig, P.P., 2013, Trace fossil and lithofacies associations, Lower Triassic Fremouw Formation, Beardmore Glacier, Central Transantarctic Mountains, Antarctica: American Association of Petroleum Geologists Annual Convention and Exhibition, Pittsburgh, Pennsylvania.
- Hasiotis, S.T., Flaig, P.P., Isbell, J.L., Gulbranson, E.L., and Sieger, D.N., 2013, Ichnofossils as proxies for polar ecosystems and climates: An example of a hydroclimate shift in Permian-Triassic continental deposits of the Beardmore Glacier Region of Antarctica: Geological Society of America Annual Meeting, Minneapolis, Minnesota.
- Hudock, J., Wood, L.J., and Flaig, P.P., 2013, Characterizing Cretaceous estuarine deposits of the McMurray Formation in Alberta, Canada: Washover fans vs. flood tidal deltas: American Association of Petroleum Geologists International Convention and Exhibition, Cartagena, Columbia.
- Jackson, A., Hasiotis, S.T., Flaig, P.P., and Isbell, J.L., 2013, Ichnology and sedimentology of the Lower Permian Mackellar Formation at Turnabout Ridge and Buckley Island, Beardmore Glacier, Central Transantarctic Mountains (CTAM) Antarctica: A shallow marine deltaic environment: American Association of Petroleum Geologists Annual Convention and Exhibition, Pittsburgh, Pennsylvania.
- Ludvigson, G., Gonzalez, L.A., Suarez, C., Fiorillo, A.R., McCarthy, P.J., and Flaig, P.P., 2013, Exploring the role of the hydrologic cycle in Arctic amplification during the greenhouse worlds of the Cretaceous and Paleocene, Geological Society of America Annual Meeting, Denver, Colorado.
- van der Kolk, D.A., Flaig, P.P., Hasiotis, S.T., and Wood, L.J., 2013, Applying GigaPan robotic photo-panorama technology to enhance facies and architectural analyses of the Upper Cretaceous Schrader Bluff and Prince Creek Formations at Shivugak Bluffs, North Slope of Alaska, USA: American Association of Petroleum Geologists Annual Convention and Exhibition, Pittsburgh, Pennsylvania.
- Hasiotis, S.T., and Flaig, P.P., 2012, Continental trace fossils of the Lower Triassic Fremouw Formation, Beardmore Glacier area, Central Transantarctic Mountains, Antarctica: implications for Pangean ichnodiversity and paleogeography: 34th International Geological Congress, Brisbane, Australia.
- Hasiotis, S.T., and Flaig, P.P., 2012, Horseshoe crabs lived in Antarctic freshwater rivers and lakes: Trace fossil evidence from the Buckley and Fremouw Formations, Beardmore Glacier Area, Central Transantarctic Mountains (CTAM) Antarctica: Geological Society of America Annual Meeting and Convention, Charlotte, North Carolina.

- Hasiotis, S.T., Flaig, P.P., Jackson, A.M., and Isbell, J.L., 2012, First report of marine trace fossils from fluvio-deltaic-shallow marine deposits in the Lower Permian Mackellar Formation, Beardmore Glacier area, Central Transantarctic Mountains, Antarctica: Salinity stressed aquatic conditions: 34th International Geological Congress, Brisbane, Australia.
- Jackson, A.M., Hasiotis, S.T., and Flaig, P.P., 2012, Preliminary report of trace fossils and sedimentology indicating a shallow marine deltaic environment for the Lower Permian Mackellar Formation at Turnabout Ridge and Buckley Island, Beardmore Glacier, Central Transantarctic Mountains (CTAM) Antarctica: Geological Society of America Annual Meeting and Convention, Charlotte, North Carolina.
- Flaig, P.P., 2011, Accommodation as a control on coastal-plain architecture: Observations and analyses of the Cretaceous versus Paleocene Prince Creek Formation, North Slope, Alaska: American Association of Petroleum Geologists Annual Convention & Exhibition Abstracts, Volume, v. 20, p. 60.
- Flaig, P.P., Hasiotis, S.T., van der Kolk, D.A., and Fiorillo, A.R., 2011, Light aircraft, trenching tools, and inflatables—old tools used for new frontiers in trace fossil research: Geological Society of America Northeastern and North-Central Joint Meeting, Pittsburg, Pennsylvania.
- Flaig, P.P., Isbell, J.L., and Hasiotis, S.T., 2011, Tectonically driven facies and architectural change across the Permian-Triassic boundary: Beardmore Glacier Region, Central Transantarctic Mountains, Antarctica: Geological Society of America Annual Meeting, Minneapolis, Minnesota.
- Flaig, P.P., van der Kolk, D.A., and Garrard, R., 2011, Regional geology and reservoir potential of the Schrader Bluff, Prince Creek, and Sagwon Member of the Sagavanirktok formation, (Late Cretaceous–Early Tertiary), North Slope, Alaska: American Association of Petroleum Geologists Pacific Section Meeting, Anchorage, Alaska.
- Flaig, P.P., van der Kolk, D.A., Burton, D., Garrard, D., and Wood, L.J., 2011, Lidar-enhanced facies, architectural, and statistical analyses of a potential Paleocene reservoir: the Prince Creek Formation at Sagwon Bluffs, North Slope, Alaska: Geological Society of America Annual Meeting, Minneapolis, Minnesota.
- Flaig, P.P., van der Kolk, D.A., Garrard, D., Burton, D., and Wood, L. J., 2011, Integrated facies analysis, lidar-enhanced architectural analysis, and petrography of a potential Paleocene reservoir: the Prince Creek Formation at Sagwon Bluffs, North Slope, Alaska: American Association of Petroleum Geologists Pacific Section Meeting, Anchorage, Alaska.
- Hasiotis, S.T., van der Kolk, D.A., Flaig, P.P., and Wood, L.J., 2011, Preliminary report on the trace fossils in a shoreface to coastal-plain transition: the Schrader Bluff and Prince Creek Formations at Shivugak Bluff, North Slope, Alaska: American Association of Petroleum Geologists Pacific Section Meeting, Anchorage, Alaska.
- McCarthy, P.J., Flaig, P.P., and Fiorillo, A.R., 2011, Paleoenvironmental reconstruction of a high-latitude coastal-plain: The Upper Cretaceous (Maastrichtian) Prince Creek Formation, North slope, Alaska: International Conference on Arctic Margins, Fairbanks, Alaska.
- Sieger, D.N., Isbell, J.L., Koch, Z.J., and Flaig, P.P., 2011, Reexamination of fluvial stacking pattern across the Permian-Triassic boundary in the Central Transantarctic Mountains, Antarctica: Geological Society of America Annual Meeting, Minneapolis, Minnesota.
- Suarez, C., Ludvigson, G., Gonzalez, L.A., Fiorillo, A.R., McCarthy, P.J., Lollar, J.C., and Flaig, P.P., 2011, Investigations of Late Cretaceous Arctic paleohydrology by integration of terrestrial stable isotope proxies: Geological society of America Annual Meeting, Minneapolis, Minnesota.
- van der Kolk, D.A., Flaig, P.P., Hasiotis, S.T., and Wood, L.J., 2011, High-latitude shoreface to coastal-plain transitions: The Schrader Bluff and Prince Creek Formations at Shivugak Bluff, North Slope, Alaska: American Association of Petroleum Geologists Pacific Section Meeting, Anchorage, Alaska.
- Flaig, P.P., and McCarthy, P.J., 2010, A snapshot of a warm Cretaceous Arctic: the Prince Creek Formation, North Slope, Alaska: Reconstructing Arctic and Beringian Ecosystems and Environments as Proxies for Understanding Recent High-Latitude Climate Change, International Arctic Research Center International Meeting, Fairbanks, Alaska.
- Flaig, P.P., McCarthy, P.J., and Fiorillo, A.R., 2010, Anatomy, evolution, and paleoenvironmental interpretation of an ancient Arctic coastal-plain: integrated paleopedology and palynology from the Late Cretaceous (Maastrichtian) Prince Creek Formation, North Slope Alaska, U.S.A.: SEPM-National Science Foundation Research Conference and Workshop: Paleosols and Surface Systems Analogues, Petrified Forest National Park, Holbrook, Arizona.

- Flaig, P.P., McCarthy, P.J., and Fiorillo, A.R., 2010, Integrated paleopedology and palynology of the Late Cretaceous (Maastrichtian) Prince Creek Formation, North Slope Alaska, U.S.A.: American Geophysical Union National Conference and Exhibition, San Francisco, California.
- Flaig, P.P., McCarthy, P.J., and Fiorillo, A.R., 2010, Tidally-influenced sedimentation on a high-latitude Cretaceous coastal-plain: the Prince Creek Formation, North Slope, Alaska: American Association of Petroleum Geologists International Conference and Exhibition, Calgary, Alberta, Canada.
- Salazar, S., McCarthy, P.J., Flaig, P.P., Fowell, S.J., and Trainor, T., 2010, Clay mineralogy of some high-latitude paleosols from the Prince Creek Formation (Maastrichtian), North Slope, Alaska: Geological Society of America National Conference and Exhibition, Denver, Colorado.
- Flaig, P.P., McCarthy, P.J., and Fiorillo, A.R., 2008, Alluvial architecture and fluvial facies of tidally-influenced alluvial/delta plain deposits of the Late Cretaceous Prince Creek Formation: Colville Basin, North Slope, Alaska: From River to Rock Record Conference, Aberdeen, Scotland.
- Flaig, P.P., McCarthy, P.J., and Fiorillo, A.R., 2008, Tidally-influenced, high-latitude alluvial/deltaic deposits of the dinosaur-bearing Late Cretaceous Prince Creek Formation: North Slope, Alaska: Geological Society of America National Meeting, Houston, Texas.
- van der Kolk, D.A., and Flaig, P.P., 2008, Outcrop expression of the Schrader Bluff and Prince Creek Formations along the Toolik River, Sagavanirktok B-4 Quadrangle (1:63,360), North Slope, Alaska: Alaska DNR Technical Review Meeting, BP Energy Center, Anchorage, Alaska.
- Fiorillo, A.R., McCarthy, P.J., Brandlen, E., Flaig, P.P., Norton, D., Jacobs, L., Zippi, P., and Gangloff, R.A., 2007, Paleontology, sedimentology, paleopedology, and palynology of the Kikak-Tegoseak Dinosaur Quarry, (Prince Creek Formation: Late Cretaceous), northern Alaska: Ceratopsian Symposium, Royal Tyrrell Museum, Drumheller, Alberta, Canada.
- McCarthy, P.J., Brandlen, E., Flaig, P.P., and Fiorillo, A.R., 2007, Late Cretaceous, high latitude paleoenvironments at the Kikak-Tegoseak dinosaur site, Prince Creek Formation, North Slope Alaska: Geological Society of America National Meeting, Denver, Colorado.
- McCarthy, P.J., Brandlen, E., Flaig, P.P., and Fiorillo, A.R., 2007, Late Cretaceous, high latitude paleoenvironments at the Kikak-Tegoseak dinosaur site, Prince Creek Formation, North Slope Alaska: Joint North-Central and South-Central Geological Society of America Meeting, University of Kansas, Lawrence, Kansas.
- Flaig, P.P., and Isbell, J.L., 2005, Changes in fluvial architecture across the Permian-Triassic boundary, Beardmore Glacier Region, Central Transantarctic Mountains, Antarctica: Geological Society of America National Meeting, Salt Lake City, Utah.
- Isbell, J.L., and Flaig, P.P., 2005, Fluvial stratigraphy across the Permian-Triassic boundary in the Beardmore Glacier Region, Antarctica: was plant extinction or tectonics the driving mechanism for producing changes in fluvial style?: Earth System Processes 2, Calgary, Alberta, Canada.
- Isbell, J.L., Flaig, P.P., Miller, M.F., and Sidor, C.A., 2005, Fluvial architecture of Permian and Triassic strata in the Beardmore Glacier Region, Antarctica: was plant extinction or tectonics the cause of fluvial changes across the P-T Boundary?: in Parkhurst, R. J., and Veiga, G. C., eds., Gondwana 12: geological and biological heritage of Gondwana: Abstracts, Academia Nacional de Ciencias, Cordoba, Argentina, p. 209.
- Flaig, P.P., Knepprath, N.E., Borosund, M.N., Isbell, J.L., and Miller, M.F., 2003, Composition and tectonic setting of the Lower Permian Weller Coal Measures, Southern Victoria Land, Antarctica: Geological Society of America, North Central Meeting, Kansas City, Kansas.

Invited Presentations

- Carbonate and mixed carbonate-clastic facies variability across the Upper Strawn Formation on the Eastern Shelf of the Permian Basin, King County, Texas: Abilene Geological Society Meeting, Oct 19, 2023, Abilene TX (Authored and Presented by Kelly Hattori)
- Research Challenges from a Polar Perspective: Complex Logistics, Cool Science, and Fascinating Finds from the Central Transantarctic Mountains and North Slope of Alaska. Talk intended to set the stage for a Special Exhibition entitled Antarctic Dinosaurs: A Forest Frozen in Time at the Witte Museum, San Antonio, TX. April 6th, 2023.
- Two ongoing multidisciplinary investigations into shallow-marine and fluvial-distributive deposits in the Wilcox Group, onshore Texas: Bureau of Economic Geology Friday Seminar Series, Austin, Texas, December 2, 2022

Incorporating digital imaging techniques into outcrop investigations to provide analogs and refine reservoir models, STARR Technical Seminar, Bureau of Economic Geology, November 17, 2022.

Characteristics and Controls on mixed carbonate-siliciclastic reservoir systems of the Strawn Group with a focus on the Upper Strawn, in King and Stonewall counties, Texas: North Texas Geological Society Meeting, Wichita Falls, virtual presentation Feb 17, 2022.

Depositional Systems of the Strawn Group in the Fort Worth Basin and Eastern Shelf of the Permian Basin: Abilene Geological Society Meeting, remote via ZOOM, November, 2020.

Select deltaic-paralic systems of the Cretaceous Western Interior Seaway, characteristics and controls: University of Wisconsin–Milwaukee Colloquium Series, Milwaukee, Wisconsin, February 2020.

Employing GigaPan imagery and drone photogrammetry to enhance virtual field trips for students at remote universities: UNIS-UArctic Virtual Field Workshop, Longyearbyen, Svalbard, 2018.

The value of integrating sedimentology, ichnology, and high-resolution imagery in outcrop investigations of reservoir analogs: Fort Worth Geological Society Invited Speaker Series, Fort Worth, Texas, 2017.

An icehouse to greenhouse transition in Permian through Triassic sediments, Central Transantarctic Mountains, Antarctica: Texas State University, Geography Department Colloquium Series, San Marcos, Texas, 2016.

A tale of three deltas: Comparative analysis of ancient, river-dominated deltaic systems from outcrops of the Permian of Antarctica, and the Cretaceous of Alaska and Colorado: University of Kansas, Geology Department Colloquium Series, Lawrence, Kansas, 2015.

Integrating sedimentology and ichnology in the Beacon Supergroup, Central Transantarctic Mountains, Antarctica, to clarify paleoenvironmental interpretations and refine basin analysis: presented to Transantarctic Mountain Science: Antarctic Deep Field Planning Meeting, Loveland, Colo., 2015.

Sedimentology, ichnology, and palynology of Permo-Triassic strata at Lamping Peak, Central Transantarctic Mountains, Antarctica: Paleopolar lakes, braided rivers, and associated forests of greenhouse Antarctica: Scientific Committee on Antarctic Research Meeting, Auckland, New Zealand, 2014.

The Late Cretaceous coastal plain of Arctic Alaska: Placing *Pachyrhinosaurus Perotorum* and other North Slope dinosaurs in a paleoenvironmental context: Southern Methodist University Colloquium Series, Dallas, Texas, 2013.

The Late Cretaceous coastal plain of Arctic Alaska: Sandy-splays, swamps, soils, and savagely surging streams: University of Wisconsin–Milwaukee Colloquium series, Milwaukee, Wisconsin, 2013.

The application of lidar (light detection and ranging) technology to outcrop geology with an example from Sagwon Bluffs on the North Slope of Alaska: Alaska Geological Society Meeting, Anchorage, Alaska, 2012.

Transantarctic tales: extraordinary geology and complex logistics in the Central Transantarctic Mountains, Antarctica: Lakeway Men’s Club, Austin, Texas, 2012.

A tidally-influenced, high-latitude alluvial/coastal plain: the Late Cretaceous (early Maastrichtian) Prince Creek Formation, North Slope, Alaska: West Texas Geological Society Meeting, Midland, Texas, 2010.

Cretaceous geology on the North Slope of Alaska: Austin Gem and Mineral Society Meeting, Austin, Texas, 2010.

Regional geology and reservoir potential of the Schrader Bluff, Prince Creek, and Sagwon Member of the Sagavanirktok Formation (Late Cretaceous to early Tertiary) Sagavanirktok Quadrangle, North Slope, Alaska: Alaska Geological Society Annual Meeting, University of Alaska—Fairbanks, Fairbanks, Alaska, 2009.

A sedimentological tour of the dinosaur-bearing Late Cretaceous Prince Creek Formation, North Slope, Alaska: Bureau of Economic Geology, Jackson School of Geosciences, The University of Texas at Austin, Austin, Texas, 2008.

Geology and logistics in the Arctic National Wildlife Refuge, on the Dalton Highway, and along the Colville River: "What two crazy University of Alaska-Fairbanks Graduate students did last summer...": Denali Foundation, Denali Education Center, McKinley Village, Alaska, 2007.

Published Interviews

Flaig, P.P., 2022: Where the sea used to be. Interview and photographs for Science Moab radio show / podcast .
Flaig, P.P., 2022:

Flaig, P. P., 2011, "History Preserved." Interview and photographs for Alcade Magazine (The University of Texas at Austin Alumni Magazine), Austin, Texas

Flaig, P. P., 2011, "Scott's Hut" and "Hidden World." Interview and photographs for audio slideshows of Antarctic research, Jackson School of Geosciences and The University of Texas at Austin KNOW websites, Austin, Texas. http://www.jsg.utexas.edu/wp-content/themes/motion/media/scotts_hut/, <https://news.utexas.edu/2011/09/20/photographing-a-hidden-world/>

Media Coverage

November 20, 2012 "Digging up dirt in Northern Alaska: What happens when geologists take over the North Slope" by Doug Hissom, Baltimore Post Examiner, Alaska Dispatch News. <http://baltimorepostexaminer.com/field-geologists-break-rocks-bones-while-searching-for-dinosaur-fossils-in-alaska/2012/10/16>.

October 24, 2012 "Alaska: North Slope price of admission and survival requires attitude" by Doug Hissom, Baltimore Post Examiner, Alaska Dispatch News. <http://www.adn.com/article/price-admission-and-survival-alaskas-north-slope-attitude>.

August 6, 2012 "Dino diggers: Searching for dinosaur fossils in Alaska" by Doug Hissom, Baltimore Post Examiner. <http://baltimorepostexaminer.com/dino-diggers-searching-for-dinosaur-fossils-in-alaska/2012/08/06>.

Websites

Peter Flaig: Public You Tube website containing 30+ drone videos of classic, clastic outcrop belts. <https://www.youtube.com/channel/UCdknBiE5oYXxNGZ7THQtZig>.

Peter Flaig GigaPan website (Outcropimaging): Mixed public/private website containing over 40 high-resolution outcrop photomosaics. <http://gigapan.com/profiles/OutcropImaging>.

Peter Flaig Photo Blog: Website of mixed geology and travel imagery, <http://peterflaig.blogspot.com/>.

Professional Service

Elected Positions

2020-2023: Research Councilor, SEPM

National Committees

Twenhofel Award Committee Chair (2020-2023)

BEG/JSG Committees

External Support Leveraging Taskforce Chair (2022-current)
Grants and Awards Committee Chair (2019-2020)

Library Committee (2015-current)

Peer-Reviewed Journal Reviews

External reviewer for the *USGS Alaska Petroleum Systems Project (Fiscal Years 2023–2027)*

Peer reviews for Journals : Geology, Sedimentology, Journal of Sedimentary Research, Sedimentary Geology, Geosphere, SEPM Special Publications, Interpretation, Journal of the Geological Society of London, Marine and Petroleum Geology, United States Geological Society Reports, Gulf Coast Association of Geological Societies Special Publications, Bureau of Economic Geology-The University of Texas at Austin Reports of Investigations.

Funding Agency Reviews

2016: American Chemical Society Petroleum Research Fund (New Directions Research Grant).

Abstract Reviews:

2022: IMAGE 2022 - Houston, Texas, US, *Theme I: Siliciclastic Systems*

Conference Chairs

Co-chair: Assessing the Sedimentary Response to Changing Climate through Multidisciplinary Investigations. SEG-AAPG IMAGE meeting, August 27- September 1, Houston, TX.

Co-chair: Applying Integrated Sedimentology and Ichnology to Refine Paleoenvironmental Interpretations, Identify Paleosalinities, and Reveal Key Sequence Stratigraphic Surfaces along Complex Coastlines. (Geological Society of America National Meeting, Portland, OR, October 10-13, 2021).

Co-chair: Combining Sedimentology, Ichnology, and Paleontology to Refine Spatial, (Paleo) Environmental Interpretations and Clarify Salinity-Discharge Fluctuations along Modern and Ancient Complex Coastlines (AAPG Annual Meeting, Denver, Colorado September 25-28, 2016).

Co-chair: The Effects of Discharge Variability on Alluvial stratigraphy: Toward a New Facies Model (AAPG Annual Meeting, Denver, Colorado, September 25-28, 2016).

Chair: General Session, Clastic Sediments (oral) (November 4, 2015).

Chair, Annual Meeting Poster Committee, Gulf Coast Association of Geological Societies August, 2012.

University Committees

Member-Chair, Grants, Appointments, and Awards Committee (GAAC), Jackson School of Geosciences, Bureau of Economic Geology, The University of Texas at Austin, 2018-2020, Chair 2019-2020.

Member, Jackson School of Geosciences Library Committee, The University of Texas at Austin, library functions and updates, January 2017-Present.

Awards and Honors

Smithsonian Magazine 2020: Top ten dinosaur discoveries of 2020 - The first juvenile dromaeosaurid (Dinosauria, Theropoda) from Arctic Alaska: *PLoS ONE*,

AAPG Annual Meeting, San Antonio, 2008: Best Poster Award, SEPM Student Session

University of Alaska-Fairbanks, 2008: Graduate School Fellowship

Student funding from granting agencies including: Geological Society of America, American Association of Petroleum Geology, SEPM, Evolving Earth Foundation, University of Alaska, University of Wisconsin, BP-Alaska, Wisconsin Geological Society, and the Alaska Geological society.

University of Wisconsin-Milwaukee, College of Letters and Science, Tutoring and Academic Resource Center, 2005: Directors Appreciation Award and Outstanding Tutor Award.

Lehigh University Field Camp, 2002: Future Performance Award, Best Geologist, Nomination for Geological Society of America Internship.

Professional Society Membership

SEPM (Society for Sedimentary Geology) – Council Member (Research Councilor) 2020-2023

Geological Society of America

Geological Society of America

American Association of Petroleum Geologists

Alaska Geological Society

Outreach

Rock Week –. Discussion on the rock cycle and rock types: Carpenter Hill Elementary School, Buda, TX

Research Advisor, *Introduction to AP Research*, Escuela Internacional Sampedrana, 500 Mtrs Arriba Hospital Mario Rivas, San Pedro Sula, Honduras, 2020.

“History Preserved”, Interview and Photographs for Alcade Magazine- the University of Texas at Austin Alumni Magazine, Austin, Texas, 2011.

“*Scott’s Hut*” and “*Hidden World*”, Interview and Photographs for audio slideshows of Antarctic Research, Jackson School of Geosciences and the University of Texas at Austin KNOW websites, Austin, Texas, 2011.

“*Peter Flaig Photography*”, Photo Blog, Antarctica and Arctic Alaska Field Photos and Comments, 2007-2011.

“*Experiencing Antarctica as a Geologist*”, Remote Communication with the 2nd and 5th Grades of General Mitchell Elementary School, Milwaukee, WI from CTAM Base Camp, Antarctica, December 2010.

What do Geologists do? Discussion with the 2nd and 3rd grades at Jefferson Elementary School, Milwaukee, WI and 4th, 5th, and 6th grades at General Mitchell Elementary School, Cudahy, WI (June 2010).

Interview for and contribution to “*Sedimental Journey*” College of Natural Sciences and Mathematics bi-annual newsletter, University of Alaska-Fairbanks, 2008.

Donation - Photography for “*Paleontology in Antarctica*” Burke Museum of Natural History & Culture University of Washington, Seattle, Washington, 2008.

Volunteer- “*Science Potpourri, Elementary Science for Kids*”: University of Alaska-Fairbanks Geology, Biology, Chemistry, & Physics Departments, 2005-2008.

“*Ask a Geologist*”: Remote Communication with the 4th and 5th Grades of West Ridge Elementary School from McMurdo Station and Beardmore Base Camp, Antarctica, 2004-2005.

“What is Antarctica and What Does a Geologist Do?” Grade School Presentations, West Ridge Elementary School, Racine, WI; Cooper Elementary School, Milwaukee, WI, 2005.

“Two Months on Ice: The Adventures of UWM Geologists in Antarctica”: American Geographical Society Library’s Academic Adventurers Series, University of Wisconsin-Milwaukee, Milwaukee, WI, 2005.