

# CURRICULUM VITAE

## Bradley B. Sageman

Department of Earth and Planetary Sciences  
Northwestern University

### RESEARCH INTERESTS

Stratigraphy – sequence stratigraphy, astrochronology, chemostratigraphy  
Molluscan paleoecology  
Sedimentary geochemistry/biogeochemistry  
Paleoclimatology/paleoceanography  
Energy and Sustainability

### EDUCATION

Ph.D. Department of Geological Sciences,  
1985-1991 University of Colorado, Boulder, CO

*Dissertation : Stratigraphy, carbon geochemistry, and paleobiology of the Upper Cenomanian Hartland Shale Member, Greenhorn Formation, Western Interior, U.S., 572 p.*

B.Sc. Department of Biology  
1975 - 1979 Denison University, Granville, OH

### PRE-DOCTORAL AWARDS, HONORS AND FELLOWSHIPS

1987-1988 Fulbright Scholarship, Institut für Geologie und Paläontologie,  
Universität Tübingen, Germany

### POST-DOCTORAL AWARDS, HONORS AND FELLOWSHIPS

2019 Fulbright Scholarship, University of Birmingham, UK  
2018 Outstanding Paper of the Year, *Journal of Sedimentary Research*  
2016 Associated Student Government, Faculty Honor Roll  
2006 Elected Fellow, Geological Society of America  
2004 Hewlett Award for Curricular Development: *Incorporation of HyperInteractive Teaching Technology in Undergraduate Teaching*  
2001 Outstanding Paper of the Year, *Journal of Sedimentary Research*  
1997 -2000 DuPont Young Professor Award  
1997 Associated Student Government, Faculty Honor Roll  
1996 Associated Student Government, Faculty Honor Roll  
1994 Hewlett Award for Curricular Development:  
*Field Problems in Sedimentary Geology*

### EMPLOYMENT

MSES Acad. Director (2019-)	Institute for Sustainability & Energy at Northwestern
Co-Director (2013-18)	(ISEN)
Associate Director (2010-13)	
Department Chair (2005-18)	Department of Earth & Planetary Sciences
Professor (2004-18)	Northwestern University
Associate Professor (1998-04)	Evanston, IL
Assistant Professor (1992-98)	
Research Associate (1991-92)	Department of Geosciences, Penn State University University Park, PA

**RESEARCH FUNDING**

I have been the lead PI, or a co-PI on grant awards totaling about \$3.8M in research funding; about \$1.9M of this has been awarded in direct support to my research program. The bulk of the funding has come from the National Science Foundation. Other funding sources include the American Chemical Society-Petroleum Research Fund, NASA, scientific societies such as the Geological Society of America, American Association of Petroleum Geologists, Colorado Scientific Society, Gulf Coast Association of Geologic Societies, Evolving Earth Foundation, and DOSECC, several oil companies (Mobil, Whiting, and Encana Inc.), and the Institute for Sustainability and Energy at Northwestern (ISEN). Most recently I contributed to an invited funding proposal by ISEN to a university trustee that resulted in a gift of \$5.5M for support of climate change and carbon science research at Northwestern; this award is not included in the numbers cited above. It will fund post-doctoral scholars and graduate students working with faculty in our department, the Dept. of Chemistry, and the Institute for Policy Research.

**TEACHING AND ADVISING**

## Areas of teaching:

Introductory Physical Geology	(majors)
Stratigraphy and Sedimentology	(majors/grad students)
Field Methods in Stratigraphy	(majors/grad students)
Paleobiology/Evolutionary Theory	(non-majors; majors/grad students)
Sedimentary Geochemistry	(majors/grad students)
Energy, climate and sustainability	(majors and non-majors)

## Courses taught:

EARTH 101 - *Geological Processes and Products*  
 EARTH 114 – *Evolution and the Scientific Method*  
 EARTH 201 – *Surface Processes (aka Earth Systems Revealed)*  
 EARTH 203 - *Historical Geology*  
 EARTH 330 - *Sedimentary Geology*  
 EARTH 331 - *Field Problems in Sedimentary Geology*  
 EARTH 340 – *Paleobiology*  
 EARTH 342/ISEN 410 – *Topics in Contemporary Energy & Climate Change*  
 SCS 391 - *Domination of the American Southwest*  
 EARTH 450 - *Advanced Topics in Sedimentary Geology:*  
     *Carbon cycle and pCO<sub>2</sub> Reconstructions*  
     *Advanced Quantitative Stratigraphy*  
 ISEN 130/230 - *Climate Change & Sustainability: Economic & Ethical Dimensions*  
 SCS 370 – *Environmental Field School*

## Curriculum development:

- 2020 – I agreed to teach EARTH 201, a class I last taught in 2009, in Spring 2020 because colleague A. Jacobson was on research leave. Due to the COVID-19 pandemic I had to adapt the course to online format.
- 2018 – I revised EARTH 330 – *Sedimentary Geology* because I felt that students would benefit from increased feedback and some modest lab experience in preparation for the fall quarter follow-up course, EARTH 331. Past exam questions were converted to

weekly homework assignments, significantly increasing the amount of grading effort required for the class.

- 2017 – I taught a new course, adopted from a faculty colleague who was on a one-year research leave. The class, EARTH 342/ISEN 410 – *Topics in Contemporary Energy & Climate Change*, is a 300/400-level version of material I present in ISEN 230, but my contribution to ISEN230 is typically only 4 lectures. As such, this class constituted a new preparation.
- 2017 – I initiated a revision of ISEN 230 this year, working to focus the course material on values and ethics related to climate change. This was the original intent of the class, and although it was thought that inclusion of economic and philosophical dimensions in one class would be enriching, we have learned it is very difficult to adequately address both in a 10-week class. The new version of the class will run in Spring 2018.
- 2016 – As EPS department chair, I initiated an effort to revise the EPS undergraduate curriculum, in part to perform a decadal update, but more importantly, to allow new faculty members to implement their own perspectives and have a role in shaping our curriculum. The new major requirements have just been approved by the WCAS Curricular Review Committee and will go into effect in AY2018-19.
- 2011 – Revised ISEN 130 as part of ISEN curricular revision, changing to ISEN 230 and shifting emphasis to policy and ethics. New title - *Climate Change and Sustainability: Political, Economic and Ethical Dimensions*
- 2010 – Developed ISEN 130 - *Sustainability: Energy, Environment, and Ethics* with co-instructors Friesema and Sheldon in 2010.
- 2010 – Co-taught SCS-370 *Environmental Field School* with Yael Wolinsky; EARTH 105-online offered to high school students in AP science track during Fall quarter.
- 2009 – Started development of online geoscience course for Center for Talent Development (EARTH 105-online; *Climate Catastrophes in Earth History*).
- 2003 – Assumed responsibility for EARTH 201-*Surface Processes* and developed course with new textbook, new lab exercises, and new pedagogic approach. Also revised EARTH 114, using new textbook and new pedagogy.
- 1999 - Developed new 100-level course for SERTS program (Science and Engineering Research and Teaching Synthesis): GEOL 114 – *Uniformity, Catastrophe, and the Meaning of Evolution* taught for first time F99 and completely revised for F03.
- 1998 – collaborated with NU faculty (D. Schejbal, P. Friesema) to develop and teach innovative new course linking Environmental Science Program and University College: *Domination of the American Southwest*, included a week-long field trip to Lake Powell in southern Utah.
- 1997 - invited to participate in IGERT grant to the National Science Foundation (Integrated Graduate Education and Research Training program) linking Departments of Environmental Engineering, Chemistry, and Geological Sciences.
- 1996 - initiated graduate level seminar series in sedimentary geology.
- 1994 - initiated GEOL 319 (development of new course - supported by a Hewlett Award for curricular development.  
 - initiated GEOL 317 (development of new course)  
 - redesigned GEOL 313 (change of existing course)
- 1993 - redesigned GEOL 101 (change of existing course)

## ADVISING:

Selected undergraduate research advisees

S17-S18: Caroline Schuette  
 W17-S18: J. Todes (w/M. Osburn)  
 S15-S16: T. Kukla  
 W11-S13: J. Mills  
 W11-S13: A. Mayer  
 F12- S13: R. Saywitz  
 W07-S08: C. Carney  
 S06-F06: B. Chartoff  
 S98-05: A. Erhardt (nee Blecha)  
 F02-S04: P. Dejtrakulwong  
 F99-S02: M. Williams  
 F01-S02: P. Pancoskova  
 S97-F97: T. Huynh  
 F96: C. Albrecht-Buehler  
 F93-S95: B. Van Mooy  
 F97: K. Carrigan

who left Northwestern to pursue...

Research assistant, Lincoln Park Zoo  
 Fulbright Scholar, U of Warsaw  
 PhD. candidate, Stanford U.  
 Ph.D. candidate, UC-Berkeley  
 Ph.D. candidate, UC-Berkeley  
 completed Envir. Sci. major, Northwestern  
 Mass spectrometry lab manager, UCSC  
 unknown  
 Assistant Prof., U of KY  
 completed Ph.D. at Stanford  
 completed M.S. at Ohio State U.  
 completed M.S. at Northwestern  
 completed M.S. at USC  
 completed M.S. at Northwestern  
 research scientist USGS/WHOI-MIT  
 practicing physician

Graduate research advisees (or co-advisees):

F20 – : Katarina Savartic	starting Fall '20
F18 – : <b>L. Podrecca</b> (PhD.)	currently enrolled
F16 – : A. Nelson (PhD., Jacobson lead)	currently enrolled
F16 – : G. Kitch (PhD., Jacobson lead)	currently enrolled
F15 – : <b>J. Wang</b> (PhD.; w/Hurtgen, Jacobson)	currently enrolled
F13 – 19: J. McFarlin (PhD.: Axford lead)	completed Ph.D.; CU-Boulder, post-doc
F13 – : J. Lazarz (Jacobsen lead)	completed Ph.D., Los Alamos Natl. Lab
F13 – 14: R. Bush (McInerney lead)	completed Ph.D.; Northwestern Asst. Prof. Instr.
F13 – 14: A. Baczynski (McInerney lead)	completed Ph.D.; Penn State, post-doc
F12 – 18: <b>M. Jones</b>	completed Ph.D., UMI-AnnArbor, post doc.
F10 – : T. Bollman (vdLee lead; Ph.D.)	currently employed by Chevron Corp.
F10 – 16: B. Kristall (Hurtgen lead)	completed Ph.D., private sector
F08 – 14: M. Gomes (Hurtgen lead)	completed Ph.D.; J. Hopkins U. Asst. Prof.
F06 – 13: <b>Young Ji Joo</b> (Ph.D.)	completed Ph.D.; S. Korean Polar Institute
F05 – 11: D. Adams (Hurtgen lead; Ph.D.)	completed Ph.D.; Exxon-Mobil Corp
F04 – 11: <b>R. Barclay</b> (w/McElwain)	completed Ph.D.; Smithsonian, post doc
F01 – 08: <b>J. Flaum</b>	completed Ph.D.; XTO Energy
F01 – 07: <b>J. Borges</b> (w/Huh)	completed Ph.D.; Chevron Corp.
F01 – 07: <b>R. Locklair</b>	completed Ph.D.; Chevron Corp.
F02 – 04: <b>P. Pancoskova</b>	completed M.S.; private sector
F02 – 03: <b>M. Fortwengler</b>	completed M.S.; Shell Oil Co. geologist
F01 – 03: <b>R. Shivaraj</b>	completed M.S.; secondary education
F97 – 03: <b>S. Meyers</b>	completed Ph.D.; U Wisc.-Madison, Prof.
F98 – F99: <b>S. Pimley</b>	completed M.S.; private sector
W94 – S00: <b>A. Murphy</b>	completed Ph.D.; U. Phoenix instructor
F93 – S94: <b>L. Hass</b>	completed M.S., private sector
W96 – S00: J. Werne (w/Hollander)	completed Ph.D., Professor, U Pittsburg
W96 – S00: M. Smith (Hollander lead)	completed Ph.D., private sector
F92 – F93: J. Rich (w/Birchfield)	completed Ph.D., private sector
F93 – S97: C. Gong (Hollander lead)	completed Ph.D.; Exxon-Mobil Corp.

## Pre- and Post-doctoral advisees:

- 2017 - : Ben Linzmeier, PhD, University of Wisconsin-Madison, working on geochemical assessment of ocean acidification, (co-advised with dept. colleagues A. Jacobson and M. Hurtgen)
- 2013-14: Dorothee Husson, Ph.D., University Pierre and Marie Curie (UPMC) working on carbon sequestration and carbon mineralization under high pressure (co-advised with my colleagues, S. Jacobsen and C. Bina)
- 1999-03: Jiri Laurin, Fulbright Scholar, Ph.D. candidate from Charles U., Czech Republic (I served as outside member of committee); currently research scientist, Czech Academy of Sciences
- 1997-99: Dr. C.A. Ver Straeten, Northwestern University Environmental Council post doctoral fellow; currently research scientist, New York State Geological Survey.

**SERVICE****Northwestern University**

## Departmental and program offices

- F05-S18: Department Chair
- F00-S02: Seminar Director
- F97-S03: Director of Undergraduate Studies
- F98-S03: Chair - Departmental Honors Committee
- F01-S03: Chair, Faculty Search Committee
- F98-S99: Chair, Faculty Search Committee
- W93-S96: Co-director, Graduate Admissions Committee
- F92-F96: Chair - Krumbein Lecture Committee

## Departmental and program committees

- F13-15: As chair I participated ex officio on numerous faculty search committees, curriculum committees, outreach committees, and computing committees.
- F01-S07: Member – Departmental building/relocation committee
- W95-S05+W12-S13: Member - Faculty Search Committees

## WCAS or University committee office or membership

- W20- : Academic Director, ISEN Master's of Science Program in Energy & Sustainability
- F13-19: Co-Director, Institute for Sustainability and Energy
- W13-18: Co-chair, Sustainability Council (w/ Prof. E. Masanet)
- F09-S18: Chair, ISEN curriculum committee
- W14: Member, Faculty Senate Committee on Global Warming
- W09-S18: Advisory board member, Center for Interdisciplinary Exploration & Research in Astrophysics (CIERA)
- S10-13: ISEN Associate Director of Education and Special Projects
- W-S11 : Search Committee Member, Science/Engineering sustainability position
- W-S10 : Co-Chair, Environmental Sciences Committee
- F09-S10: Member, Executive Committee, Northwestern Institute of Sustainable Practices
- F09-S10: Member, Physical Sciences and Engineering Advisory Board
- F03-S07: Member, Curricular Policies Committee
- F95-S06: Member - Environmental Sciences Program Committee
- F01-S02: Co-chair – Environmental Sciences Task Force
- F01-S02: Member – Board of College Scholars
- F00-S02: Member - Committee on Academic Standing
- S00-S01: Member - Ad hoc Committee for Promotion of Lecturer Faculty
- F99-S00: Member -Environmental Council Core Management Group
- S94: CAS Representative for Prospective Undergraduate Applicants Panel

**Student relations**

- F94-S07: Faculty Associate, Shepard Residential College; Hosted Shepard student dinner and attended various residential college events and outings.  
 F94-F06: Departmental field trip leader (Colorado-Utah '94; Iowa '00; Wisconsin '01, Big Bend and Yellowstone NP's'06; Yucatan '10)

**Peer Review Activities**

- Books: SEPM Special Publications Columbia University Press  
 GSA Special Publications Springer Verlag
- Journals: *American Journal of Science, Associate Editor* (Jan.1, 2015-2023)  
*Palaios* (Associate Editor 96-03) *Nature* *Geology*  
*Paleoceanography* *GSA Bulletin* *AAPG Bulletin*  
*Chemical Geology* *Earth & Planetary Science Letters*  
*Journal for Sedimentary Research* *Palaeogeog, Palaeoecol., & Palaeoclim.*
- Funding Agencies: National Science Foundation, Earth Sciences  
 Sedimentary Geology & Paleontology (Panel Member)  
 Low temperature geochemistry and geobiology  
 American Chemical Society, Petroleum Research Fund  
 Netherlands Organisation for Scientific Research  
 National Geographic Society

**Other Peer Review service:**

- Geological Society of America: L.L. Sloss Award Committee, 2005-08  
 National Research Council: *Understanding Earth's Deep Past: Lessons for our Climate Future*

**Professional Affiliations**

Member: American Geophysical Union (AGU), Geological Society of America (GSA), Geochemical Society (GS), Society for Sedimentary Geology (SEPM), International Association of Sedimentologists (IAS).

**Professional Organizations**

Voting Member, Cretaceous Subcommittee of International Commission on Stratigraphy

**PUBLICATIONS**

[H-index: Scopus-37; GoogleScholar-46]

95. Joo, Y.J., Sageman, B.B., and Hurtgen, M.T., 2020, Data-model comparison reveals key environmental changes leading to Cenomanian-Turonian Oceanic Anoxic Event 2, *Earth Science Reviews* 203, 103-123.
94. Liu, Z., Horton, D.E., Tabor, C., Sageman, B.B., Percival, L.M. E., Gill, B.C., and Selby, D., 2020, in press, Assessing the Contributions of Comet Impact and Volcanism Towards the Climate Perturbations of the Paleocene-Eocene Thermal Maximum, *Geophysical Research Letters* #2019GL084818RR.
93. Linzmeier, B.J., Jacobson, A.D., Sageman, B.B., Hurtgen, M.T., Ankney, M.E., Petersen, S.V., Tobin, T.S., Kitch, G.D., and Wang, J., 2019, Calcium isotope evidence for environmental variability before and across the Cretaceous – Paleogene mass extinction, *Geology* 48; <https://doi.org/10.1130/G46431.1>.
92. Liu, Z., Selby, D., Zhang, H., Zheng, Q., Shen, S., Sageman, B.B., Grasby, S.E., and Beauchamp, B., 2019a, in press, Osmium-isotope evidence for volcanism across the Wuchiapingian–Changhsingian boundary interval, *Chemical Geology* 529; <https://doi.org/10.1016/j.chemgeo.2019.119313>.

91. Wang, J., Jacobson, A.D., Zhang, H., Ramezani, J., Sageman, B.B., Hurtgen, M.T., Bowring, S.A., Shen, S.-Z., 2019, in press, Coupled  $\delta^{44/40}\text{Ca}$ ,  $\delta^{88/86}\text{Sr}$ , and  $^{87}\text{Sr}/^{86}\text{Sr}$  geochemistry across the end-Permian mass extinction event, *Geochimica et Cosmochimica Acta*, DOI: <https://doi.org/10.1016/j.gca.2019.07.035>.
90. Baker, S., Belcher, C.M., Barclay, R.S., Hesselbo, S.P., Laurin, J., Sageman, B.B., 2019, CO<sub>2</sub> induced climate forcing on the fire record during Cretaceous OAE2, *Geol. Soc. America Bulletin* (<https://doi.org/10.1130/B35097.1>).
89. Laurin, J., Barclay, R.S., Sageman, B.B., Dawson, R., Pagani, M., Schmitz, M., Eaton, J., McNerney, F.A., and McElwain, J.C., 2019, Terrestrial and Marginal-Marine Record of the Oceanic Anoxic Event 2 (OAE 2): High-Resolution Framework, Carbon Isotopes, CO<sub>2</sub> and Sea-Level Change, for *Palaeogeography, Palaeoclimatology, Palaeoecology* 524: 118-136.
88. Ma, C., Meyers, S.R., and Sageman, B.B., 2019, Testing Late Cretaceous Astronomical Solutions in a 15 Million Year Astrochronologic Record from North America, *Earth and Planetary Science Letters* 513: 1-11.
87. Jones, M.M., Sageman, B.B., Oakes, R.L., Parker, A.L., Leckie, R.M., Bralower, T.J., Sepúlveda, J., Victoria Fortiz, V., 2019, Astronomical pacing of relative sea level during Oceanic Anoxic Event 2: Preliminary studies of the expanded SH#1 Core, Utah, *Geol. Soc. America Bulletin* (doi: <https://doi.org/10.1130/B32057.1>).
86. Jones, M.M., Sageman, B.B., Meyers, S.R., 2018, Turonian sea level and paleoclimatic events in astronomically-tuned records from the tropical N. Atlantic and Western Interior Seaway, *Paleoceanography & Paleoclimatology* 33. (doi.org/ 10.1029/2017PA003158)
85. Kristall, B., Jacobson, A.D., Sageman, B.B., and Hurtgen, M.T., 2018, Coupled strontium-sulfur cycle modeling and the Early Cretaceous sulfur isotope record, *Palaeogeography, Palaeoclimatology, Palaeoecology* 496: 305-322. (doi.org/10.1016/j.palaeo.2018.01.047).
84. Jones M.M., Ibarra D.E., Gao Y., Sageman B.B., Selby D., Chamberlain C.P., Graham S.A., 2018, Evaluating Late Cretaceous OAEs and the influence of marine incursions on organic carbon burial in an expansive East Asian paleo-lake, *Earth and Plan. Sci. Letters* 484: 41-52.
83. Ma, C., Meyers, S.M., and Sageman, B.B., 2017, Theory of chaotic orbital variations confirmed by Cretaceous geological data, *Nature* 542: 468-472.
82. Mills, J.V., Gomes, M.L., Kristall, B., Sageman, B.B., Jacobson, A.D., and Hurtgen, M.T., 2017, Massive volcanism, evaporite deposition and the chemical evolution of the Early Cretaceous ocean, accepted for publication in *Geology* 45: 475-478.
81. Lowery, C.M., Leckie, R.M., and Sageman, B.B., 2017, Micropaleontological evidence for redox changes in the OAE3 interval of the US Western Interior: Global vs. local processes, *Cretaceous Research* 69: 34-48.
80. Kita, Z.A., Watkins, D.K., and Sageman, B.B., 2017, High-resolution calcareous nannofossil biostratigraphy of the Santonian/Campanian stage boundary, Western Interior Basin, USA, *Cretaceous Research* 69: 49-55.
79. Rooney, A.D., Selby, D., Lloyd, J.M., Roberts, D.H., Lückge, A., Sageman, B.B., Prouty, N.G., 2016, Tracking millennial-scale Holocene glacial advance and retreat using Osmium isotopes: Insights from the Greenland Ice Sheet, *Quaternary Science Reviews* 138: 49-61.
78. Holmden, C., Jacobson, A.D., Sageman, B.B. and M.T. Hurtgen, 2016, Response of the Cr isotope proxy to Cretaceous Ocean Anoxic Event 2 in a pelagic carbonate succession from the Western Interior Seaway, *Geochimica et Cosmochimica Acta* 186: 277-295.

77. Gomes, M.L., Hurtgen, M.T., and Sageman, B.B., 2016, Biogeochemical sulfur cycling during Cretaceous Ocean Anoxic Events: A comparison of OAE1a and OAE2, *Paleoceanography*. DOI: 10.1002/2015PA002869.
76. Tessin, A. Hendy, I., Sheldon, N., and Sageman, B., 2015, Redox controlled preservation of organic matter during “OAE 3” within the Western Interior Seaway, *Paleoceanography*. DOI: 10.1002/2014PA002729.
75. Zhou, X., Jenkyns, H.C., Owens, J.D., Junium, C.K., Zheng, X., Sageman, B.B., Hardisty, D.S., Lyons, T.W., Ridgwell, A., and Lu, Z., 2015, The I/Ca proxy and upper ocean oxygenation dynamics during the Cenomanian–Turonian OAE 2, *Paleoceanography*. DOI: 10.1002/2014PA002741.
74. Du Vivier, A.D.C., Jacobson, A.D., Lehn, G.O., Selby, D., Hurtgen, M.T., and Sageman, B.B., 2015, Ca isotope stratigraphy across the Cenomanian-Turonian OAE 2: links between volcanism, seawater geochemistry, and the carbonate fractionation factor, *Earth. Planet. Sci. Letters* 416: 121-131.
73. Laurin, J., S. R. Meyers, D. Uličný, I. Jarvis, and B. B. Sageman, 2015, Axial obliquity control on the greenhouse carbon budget through middle- to high-latitude reservoirs, *Paleoceanography*, 30, 133–149; doi:10.1002/2014PA002736.
72. Jee, B. D., Gentner, D., Uttal, D. H., Sageman, B., Forbus, K., Manduca, C., Ormand, C. J., Shipley, T., & Tikoff, B., 2014, Drawing on experience: How domain knowledge is reflected in sketches of scientific structures and processes. *Research in Science Education*. doi: 10.1007/s11165-014-9405-2.
71. Joo, Y.J. and Sageman, B.B., 2014, Cenomanian to Campanian Carbon Isotope Chemostratigraphy from the Western Interior Basin, *Journal Sedimentary Research* 84: 529-542. doi: <http://dx.doi.org/10.2110/jsr.2014.38>.
70. Husson, D., Thibault, N., Galbrun, B., Gardin, S., Minoletti, F., Sageman, B., and Huret, E., 2014, Lower Maastrichtian cyclostratigraphy of the Bidart section (Basque country, SW France): a remarkable record of precessional forcing, *Palaeogeog., Palaeoclimat., Palaeoecol.* 395, 176-197.
69. Ma, C., Meyers, S., Sageman, B., Singer, B., Jicha, B., 2014, Testing the Astronomical Time Scale for Oceanic Anoxic Event 2, and its Extension into Cenomanian Strata of the Western Interior Basin, *Geol. Soc. Amer. Bull.*, v. 126 (7/8), p. 974-989, doi:10.1130/B30922.1.
68. Sageman, B.B., Singer, B.S., Meyers, S.R., Walaszczyk, I., Seiwert, S.E., Condon, D.J., Jicha, B.R., Obradovich, J.D., and Sawyer, D.A., 2014, Integrating  $^{40}\text{Ar}/^{39}\text{Ar}$ , U-Pb, and astronomical clocks in the Cretaceous Niobrara Formation, Western Interior Basin, USA, *Geol. Soc. Amer. Bull.*, v. 126 (7/8), p. 956–973. doi:10.1130/B30929.1.
67. Du Vivier, A.D.C., Selby, D. Sageman, B.B., Gröcke, D.R., and Voigt, S., 2014, Marine  $^{187}\text{Os}/^{188}\text{Os}$  isotope stratigraphy reveals the interaction of volcanism and ocean circulation during Oceanic Anoxic Event 2, *Earth Planet. Sci. Letters*, v. 389, p. 23–33.
66. Sageman B.B., Lyons T.W. and Joo Y.J., 2014, Geochemistry of Fine-Grained, Organic Carbon-Rich Facies. In: Holland H.D. and Turekian K.K., eds., *Treatise on Geochemistry*, 2nd Edition, v. 9, Elsevier, Oxford, p. 141-179.
65. Pagani, M., Huber, M., and Sageman, B., 2014, Greenhouse Climates, in Holland, H., and Turekian, K., eds., *Treatise on Geochemistry*, 2nd Edition, v. 6, Elsevier, Oxford, p. 281-304.
64. Barclay, R.S., McElwain, J., Duckett, J., van Es, M., Mostaert, A., Pressel, S., and Sageman, B., 2013, New methods reveal oldest known fossil epiphyllous moss: *Bryiidites utahensis* gen. et sp. nov. (Bryidae), *American Journal of Botany*. DOI: 10.3732/ajb.1300209



63. Jones, C.H., Farmer, G.L., Sageman, B., and Zhong, S., 2012, Erratum: Hydrodynamic mechanism for the Laramide orogeny, v. 8/2, p544-545. DOI: 10.1130/GES00575.1.
62. Chamberlain, C. P., Wan, X., Graham, S.A., Carroll, A.R., Doebbert, A.C., Sageman, B.B, Blisniuk, P., Kent-Corson, M.L., Wang, Z., and Chengshan, W., 2012, Stable isotopic evidence for climate and basin evolution of the Late Cretaceous Songliao basin, China, *Palaeogeography, Palaeoclimatology, Palaeoecology*, doi:10.1016/j.palaeo.2012.03.020.
61. Meyers, S.R, Sageman, B.B., and Arthur, M.A., 2012, Obliquity forcing of organic matter accumulation during Oceanic Anoxic Event 2 , *Paleoceanography*, 27, PA3212, doi:10.1029/2012PA002286
60. Meyers, S.R., Siewert, S.E., Singer, B.S., Sageman, B.B., Condon, D.J., Obradovich, J.D., Jicha, B.R. and Sawyer, D.A., 2012, Intercalibration of Radioisotopic and Astrochronologic Time Scales for the Cenomanian/Turonian Boundary Interval, Western Interior Basin, USA, *Geology*, v. 40, p. 7-10.
59. Ver Straeten, C.A., Brett, C.E., Sageman, B.B., 2011, Mudrock sequence stratigraphy: A multi-proxy (sedimentological, paleobiological and geochemical) approach, Devonian Appalachian Basin, *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 304, p. 54-73.
58. Wagreich, M., Hu, X., Sageman, B., 2011, Causes of oxic–anoxic changes in Cretaceous marine environments and their Implications for Earth systems—An introduction, *Sedimentary Geology* v. 235, p. 1-4.
57. Locklair, R. E., Sageman, B.B., and Lerman, A., 2011, Marine Carbon Burial Flux and the Carbon Isotope Record of Late Cretaceous (Coniacian-Santonian) Oceanic Anoxic Event III, *Sedimentary Geology* v. 235, p. 38-49.
56. Jones, C.H., Farmer, G.L., Sageman, B.B., and Zhong, S., 2011, A Hydrodynamic Mechanism for the Laramide Orogeny, *Geospheres*, v. 7, p. 183-201.
55. Yin, P., Forbus, K.D., Usher, J., Sageman, B., and Jee, B.D., 2010, Sketch Worksheets: A sketch-based educational software system, for Proceedings of the 22nd Annual Conference on Innovative Applications of Artificial Intelligence, AAAI Press.
54. Adams, D., Hurtgen, M., and Sageman, B., 2010, Volcanic triggering of a biogeochemical cascade during Oceanic Anoxic Event 2, *Nature Geoscience*, v. 3 (3); p. 201-204; doi:10.1038/ngeo743.
53. Barclay, R.S., McElwain, J. C., and Sageman, B.B, 2010, Volcanic CO<sub>2</sub> Pulse Activates Carbon Sequestration during Cretaceous Oceanic Anoxic Event 2, *Nature Geoscience*, v. 3(3); p.205-208; doi:10.1038/ngeo757.
52. Duan, Y., Severmann, S., Anbar, A.D., Lyons, T.W. Gordon, G.W., and Sageman, B.B., 2010, Isotopic evidence for Fe cycling and repartitioning in ancient oxygen-deficient settings: Examples from black shales of the mid-to-late Devonian Appalachian basin, *Earth and Planetary Science Letters*, v. 290, p. 244-253.
51. Jee, B. D., Uttal, D. H., Gentner, D., Manduca, C., Shipley, T., Sageman, B., Ormand, C. J., & Tikoff, B., 2010, Analogical thinking in geoscience education. *Journal of Geoscience Education*, v. 58 (1), p. 2-13.
50. Jee, B., Gentner, D., Forbus, K., Sageman, B. and Uttal, D., 2009, Drawing on experience: Use of sketching to evaluate knowledge of spatial scientific concepts. In *Proceedings of the 31st Annual Conference of the Cognitive Science Society*. Amsterdam, The Netherlands.
49. Gordon, G. W., Lyons, T. W., Arnold G. L., Roe, J., Sageman, B. B., and A. D. Anbar, 2009, When Do Black Shales Tell Molybdenum Isotope Tales? *Geology* v. 37, p. 535-538.
48. Sageman, B.B., 2009, Ocean Anoxic Events, in Gornitz, V., ed., *Encyclopedia of Paleoclimatology and Ancient Environments*, Springer, Berlin: p. 626-629.

47. Jee, B. D., Uttal, D. H., Gentner, D., Manduca, C., Shipley, T., Sageman, B., Ormand, C. J., & Tikoff, B., 2008, The Role of Analogy in Learning Spatial Concepts in Geoscience. In C. Sorby, & K. Hungwe (Eds.), *Proceedings of the Conference on Research and Training in Spatial Intelligence*.
46. Gale, A.S., Voigt, S., Sageman, B.B., and W. J. Kennedy, 2008, Eustatic sea-level record for the Cenomanian (Late K)-Extension to the Western Interior Basin, USA, *Geology* v. 36, p. 859-862.
45. Meyers, S.R, Sageman, B.B., and Pagani, M., 2008, Resolving Milankovitch: Consideration of signal and noise, *American Journal of Science*, v. 308, p. 770-786.
44. Locklair, R. E. and Sageman, B.B., 2008, Cyclostratigraphy of the Upper Cretaceous Niobrara Formation, Western Interior, U.S.A.: A Coniacian-Santonian orbital timescale, *Earth and Planetary Science Letters*, v. 269, p. 540-553.
43. Barclay, R. McElwain, J., Dilcher, D., and Sageman, B., 2007, The cuticle database: Developing an interactive tool for taxonomic and paleoenvironmental study of the fossil cuticle record, *Cour. Forsch. Inst. Senckenberg*, v. 258, p. 39-55.
42. Meyers, S.R., and Sageman, B.B., 2007, Quantification of deep time orbital forcing by average spectral misfit, *American Journal of Science*, v. 307, p. 773-792.
41. Laurin, J. and Sageman, B., 2007, Cenomanian–Turonian Coastal Record in SW Utah, U.S.A.: Orbital-Scale Transgressive–Regressive Events During Oceanic Anoxic Event II, *Journal of Sedimentary Research*, v. 77, p. 731-756.
40. Sageman, B.B., Meyers, S.R., and Arthur M.A., 2006, Orbital time scale and new C-isotope record for Cenomanian- Turonian boundary stratotype, *Geology*, v. 34, no. 2, p. 125-128.
39. Laurin, J., Meyers, S.R., Sageman, B.B., and Waltham, D., 2005, Phase-lagged amplitude modulation of hemipelagic cycles: A potential tool for recognition and analysis of sea-level change, *Geology*, v. 33, p. 569-572.
38. Meyers, S.R., Sageman, B.B., and Lyons, T.W., 2005, Organic carbon burial rate and the molybdenum proxy: Theoretical framework and application to Cenomanian-Turonian oceanic anoxic event 2, *Paleoceanography*, v. 20, 19 p.
37. Arthur, M.A., and Sageman, B.B., 2005, Sea Level Control on Source Rock Development: Perspectives from the Holocene Black Sea, the mid-Cretaceous Western Interior Basin of North America, and the Late Devonian Appalachian Basin, In Harris, N.B. (ed.), *The Deposition of Organic Carbon-rich Sediments: Models, Mechanisms and Consequences*, SEPM Special Publication No. 82, p. 35-59.
36. Meyers, S.R. and Sageman, B.B., 2004, Detection, quantification, and significance of hiatuses in pelagic and hemipelagic strata. *Earth & Planetary Science Letters*, v. 224, p. 55-72.
35. Sageman, B.B. and Speed, R.C., 2004, Upper Eocene Limestones, Associated Sequence Boundary, and Proposed Eocene Tectonics in Eastern Venezuela, in Claudio Bartolini, Richard T. Buffler, and Jon Blickwede (eds.), *The Gulf of Mexico and Caribbean Region: Hydrocarbon Habitats, Basin Formation and Plate Tectonics*, American Association Petroleum Geologists CD Project.
34. Sageman, B.B. and Lyons, T.W., 2003, Geochemistry of fine-grained sediments and sedimentary rocks, in MacKenzie, F., ed., vol. 7, *Treatise on Geochemistry*, Elsevier, NY, p. 115-158.
33. Fisher, C., Sageman, B.B., Asure, S.E., Acker, B., and Mahar, Z., 2003, Planktic foraminiferal porosity analysis as a tool for paleoceanographic reconstruction, mid-Cretaceous Western Interior Sea, *Palaios*, v. 18, p. 34-46.

32. Sageman, B.B., Murphy, A.E., Werne, J.P., Ver Straeten, C.A., Hollander, D.J., and Lyons, T.W., 2003, A tale of shales: The relative roles of production, decomposition, and dilution in the accumulation of organic-rich strata, Middle-Upper Devonian, Appalachian basin, *Chemical Geology*, v. 195, 9. 229-273.
31. Werne, J.P., Sageman, B.B., Lyons, T., and Hollander, D.J., 2002, An integrated assessment of a "type euxinic" deposit: Evidence for multiple controls on black shale deposition in the Middle Devonian Oatka Creek Formation, *American Journal of Science*. v. 302, 110-143.
30. Laurin, J., and Sageman, B.B., 2001, Tectono-sedimentary evolution of the western margin of the Colorado Plateau during the latest Cenomanian and Early Turonian, in Erskine, M.C., Faulds, J.E., Bartley, J.M., and Rowley, P. (eds.), *Symposium Volume: Geologic Transition between the Great Basin and the Colorado Plateau* (Cedar City, Sept. 2001), Utah Geological Association and the Pacific Section of Amer. Assoc. Petrol. Geologists, p. 57-74.
29. Meyers, S., Sageman, B., and Hinnov, L., 2001, Integrated quantitative stratigraphy of Cenomanian-Turonian Bridge Creek Limestone Member using Evolutionary Harmonic Analysis and stratigraphic modeling, *Journal of Sedimentary Research*, v. 71, p. 628-644.
28. Murphy, A.E., Sageman, B.B., Hollander, D.J., 2001, Eutrophication by decoupling of the marine biogeochemical cycles of C, N, and P: A mechanism for the Late Devonian mass extinction – Comment-Reply, for *Geology*, v. 29/2, p. 469-470.
27. Murphy, A.E., Sageman, B.B., Hollander, D.J., 2000, Eutrophication by decoupling of the marine biogeochemical cycles of C, N, and P: A mechanism for the Late Devonian mass extinction, *Geology*, v. 28, p. 427-430.
26. Murphy, A.E., Sageman, B.B., Hollander, D.J., Lyons, T.W., and Brett, C.E., 2000, Black shale deposition and faunal overturn in the Devonian Appalachian basin: Clastic starvation, seasonal water-column mixing, and efficient biolimiting nutrient recycling, *Paleoceanography*, v. 15, p. 280-291.
25. Murphy, A.E., Sageman, B.B., Hollander, D.J., and Ver Straeten, C.A., 2000, Organic carbon burial and faunal dynamics in the Appalachian basin during the Devonian (Givetian-Famennian) greenhouse: An integrated paleoecological/ biogeochemical approach, In: B. Huber, K. MacLeod, and S. Wing, eds., *Warm Climates in Earth History*, Cambridge University Press, p. 351-385.
24. Sageman, B.B., and Hollander, D.J., 1999, Integration of paleoecological and geochemical proxies: a holistic approach to the study of past global change. In: Johnson, C.J., and Barrera, E., eds., *The Evolution of Cretaceous Ocean/Climate Systems*. Geological Society of America, Special Paper 332, p. 365-384.
23. Sageman, B.B., Gardner, M.H., Armentrout, J.M., and Murphy, A.E., 1998, Stratigraphic hierarchy of organic carbon-rich siltstones in deep-water facies, Brushy Canyon Formation (Guadalupian), Delaware basin. *Geology*, v. 26, p. 451-454.
22. Sageman, B., Rich, J., Savrda, C.E., Bralower, T., Arthur, M.A., Dean, W.E., 1998, Multiple Milankovitch cycles in the Bridge Creek Limestone (Cenomanian-Turonian), Western Interior basin, In: W.E. Dean and M.A. Arthur, eds., *Stratigraphy and Paleoenvironments of the Cretaceous Western Interior Seaway, U.S.A.*, Society Economic Paleontologists Mineralogists, Concepts in Sedimentology and Paleontology No. 6. p. 153-171.
21. Sageman, B.B., Rich, J., Arthur, M.A., and Dean, W.E., and Birchfield, E.G., 1997, Evidence for Milankovitch periodicities in Cenomanian-Turonian lithologic and geochemical cycles, Western Interior U.S., *Journal of Sedimentary Research*, v. B67 (1), p. 286-302.

20. Sageman, B.B. and Bina, C., 1997, Diversity and species abundance patterns in Late Cenomanian black shale biofacies: Western Interior, U.S. *Palaios*, v. 12, p. 449-466.
19. Sageman, B.B., Kauffman, E.G., Harries, P.J., and Elder, W.P., 1997, Cenomanian-Turonian Bioevents in the Western Interior Basin: Contrasting Scales of Local, Regional and Global events. **In:** C. Brett and G. Baird (eds.), *Paleontological Event Horizons*, Columbia University Press, p. 468-495.
18. Sageman, B.B., 1996, Lowstand Tempestites: Depositional model for Cretaceous skeletal limestones, Western Interior, U.S. *Geology*, v. 24 (10), p. 888-892.
17. Slingerland, R., Kump, L., Arthur, M., Fawcett, P., Sageman, B., and Barron, E., 1996, Estuarine circulation in the Turonian Western Interior Seaway of North America. *Geological Society of America Bulletin*, v. 108, p. 941-952.
16. Dean, W.E., Arthur, M.A., Sageman, B.B., and Lewan, M.D., 1995, Core descriptions and preliminary geochemical data for the Amoco Production Company Rebecca Bounds #1 Well, Greeley County, Kansas. *US Geological Survey Open File Report 95-209*, 243 pp.
15. Sageman, B.B. and Arthur, M.A., 1994, Early Turonian paleogeographic/ paleobathymetric map, Western Interior, U.S. **In:** M. Caputo and J. Peterson, eds., *Mesozoic Systems of the Rocky Mountain Region*, U.S., Rocky Mountain Section - Society Economic Paleontologists Mineralogists Special Publication, p. 457-470.
14. Arthur, M.A. and Sageman, B.B., 1994, Marine Black Shales: A Review of Depositional Mechanisms and Environments of Ancient Deposits. *Annual Review Earth & Planetary Science*, v. 22: p. 499-552.
13. Elder, W.P., Gustason, E.R., and Sageman, B.B., 1994, Correlation of basinal carbonate cycles to nearshore parasequences in the Late Cretaceous Greenhorn Seaway, Western Interior, U.S. *Geological Society of America Bulletin*, v. 106, p. 892-902.
12. Mieras, B.M., Sageman, B.B. and Kauffman, E.G., 1993, Trace fossil distribution patterns in Cretaceous facies of the Western Interior basin, North America, **In:** W.G.E. Caldwell and E.G. Kauffman (eds.), *Cretaceous Evolution of the Western Interior basin, North America*, Geological Association Canada, Special Publication 39, p. 585-620.
11. Kauffman, E.G., Sageman, B.B., Elder, W.P., Kirkland, J.I., and Villamil, T., 1993, Molluscan biostratigraphy of the Cretaceous Western Interior Basin, North America, **In:** W.G.E. Caldwell and E.G. Kauffman (eds.), *Cretaceous Evolution of the Western Interior Basin, North America*, Geological Association Canada, Special Publication 39, p. 397-434.
10. Sageman, B.B., Wignall, P.B., and Kauffman, E.G., 1991, Biofacies models for oxygen-deficient facies in epicontinental seas: tool for paleoenvironmental analysis, **In:** G. Einsele, A. Seilacher, and W. Ricken (eds.), *Cycles and Events in Stratigraphy*, Springer Verlag, Berlin, p. 542-564
9. Kauffman, E.G., Elder, W.P., and Sageman, B.B., 1991, Advances and limits of High-Resolution Event Stratigraphy (HIRES), **In:** G. Einsele, A. Seilacher, and W. Ricken (eds.), *Cycles and Events in Stratigraphy*, Springer Verlag, Berlin, p. 795-819.
8. Kauffman, E.G. and Sageman, B.B., 1990, Biological sensing of benthic environments in dark shales and related oxygen-restricted facies, **In:** R.N. Ginsberg and B. Beaudoin (eds.), *Cretaceous Resources, Events and Rhythms: Background and plans for research*, Proc. 1st Global Sedimentary Geology Program Mtng., Digne, France) NATO ASI Series C, 304, p. 121-138.
7. Sageman, B.B., 1989, The benthic boundary biofacies model: Hartland Shale Member, Greenhorn Formation (Cenomanian), Western Interior, North America. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 74, p. 87-110.

6. Kauffman, E.G., Sageman, B.B., Elder, W.P., and Gustason, E.R., 1987, High-resolution event stratigraphy, Greenhorn Cyclothem (Cretaceous: Cenomanian-Turonian), Western Interior Basin of Colorado and Utah. *Geological Society of America Field Trip Guidebook, 1987 Rocky Mountain Section, Regional Meeting.*, Boulder, CO: 198 p.
5. Kauffman, E.G., Elder, W. P. and Sageman, B.B., 1987, The Rock Canyon Anticline, Pueblo, Colorado: A working laboratory for Cretaceous high-resolution event stratigraphy. **In:** E.G. Kauffman and others (eds.), *High-resolution event stratigraphy, Greenhorn cyclothem (Cretaceous: Cenomanian-Turonian), Western Interior basin of Colorado and Utah, Field trip guidebook*, Geological Society of America, Rocky Mountain Section, Regional Meeting, May 2-4, 1987, Boulder, Colorado, p. 36-62.
4. Sageman, B.B., 1987, A case study: High-resolution event stratigraphy, The Hartland Shale Member, Greenhorn Formation. **In:** E.G. Kauffman, B.B. Sageman, W.P. Elder, and E. Gustason (eds.), *High-resolution event stratigraphy, Greenhorn cyclothem (Cretaceous: Cenomanian-Turonian), Western Interior basin of Colorado and Utah, Field trip guidebook*, Geological Society of America, Rocky Mountain Section, Regional Meeting, May 2-4, 1987, Boulder, Colorado, p. 64-76, 92-97, 101-107, 111-116.
3. Sageman, B.B., 1986, Biofacies of the Cenomanian Lincoln and Hartland Members of the Greenhorn Formation, Rock Canyon Anticline. **In:** E.G. Kauffman (ed.), *Biofacies of the central part of the Western Interior Seaway; A Field Guidebook*, North American Paleontological Convention IV, Aug. 12-15, 1986, Boulder, Colorado, p. 80-90.
2. Sageman, B.B., 1985, High-resolution stratigraphy and paleobiology of the Hartland Shale Member: Analysis of an oxygen-deficient epicontinental sea. **In:** L.M. Pratt, E.G. Kauffman, and F.B. Zelt (eds.), *Fine-grained deposits and biofacies of the Cretaceous Western Interior Seaway: Evidence of cyclic sedimentary processes*. Society Economic Paleontologists Mineralogists, Field Trip Guidebook No. 4, Midyear Meeting, Aug. 12-14, 1985, Golden, Colorado, p. 110-121.
1. Sageman, B.B. and Johnson, C.C., 1985, Stratigraphy and paleobiology of the Lincoln Limestone Member, Greenhorn Limestone, Rock Canyon Anticline, Colorado. **In:** Pratt, L.M., Kauffman, E.G. and Zelt, F.B. (eds.), *Fine-grained deposits and biofacies of the Cretaceous Western Interior Seaway: Evidence of cyclic sedimentary processes*. Society Economic Paleontologists Mineralogists, Field Trip Guidebook No. 4, Midyear Meeting, Aug.12-14, 1985, Golden, Colorado, p. 100-109.

#### **Book Reviews or Columns (Invited):**

- Sageman, B.B., 1997, *Cycles, climate, and the Great Western Interior Sea*, article for Environmental Council Newsletter.
- Marine Paleoenvironmental Analysis from Fossils, 1995, D. Boscence and P. Allison (eds), *Geol. Soc. Spec. Pub.* 83, 272 pp.; Review in *Palaios*, May issue - 1996.
- Sageman, B.B., 1992, Paleoeology - A Cure for Sequence Syndrome? Online Column, *Palaios* 7(5): 1-2.

#### **PROFESSIONAL PRESENTATIONS (since 2000)**

##### **Published abstracts (\*denotes speaker if not first author)**

- Jones, M.M., Sageman, B.B., Selby, D.S., Jacobson, A.D., Huber, B.T., Batenburg, S.J., Riquier, L., Hasegawa, T., Petrizzo, M., MacLeod, K.G., Hobbs, R.W., and Bogus, K.A., 2019, Volcanically Initiated Shoaling of the Marine Calcite Compensation Depth during Oceanic Anoxic Event 2 (~94 Ma), Abstract #597489, AGU Ann. Meeting, San Francisco, CA.

- Bryant, R., Leckie, R.M., Dameron, S., Elderbak, K.M., Parker, A.L., Sageman, B.B., Jones, M.M., Ludvigson, G.A., Martin, E.E., Robinson, L., Rostami, M.A., and Whiteside, J.H., 2019, Paleooceanographic change across the Western Interior Seaway during the onset of Cretaceous Oceanic Anoxic Event 2, Abstract #502357, AGU Ann. Meeting, San Francisco, CA.
- Linzmeier, B. Jacobson, A.D., Sageman, B.B., Hurtgen, M.T., Ankney, M.E., Masterson, A. L. and Landman, N.H., 2019, Calibrating Cephalopod Isotope Responses using *Nautilus Macromphalus* from New Caledonia, Abstract 171-10, Geol. Soc. America Ann. Mtg., Phoenix, AZ.
- Leckie, R.M., Parker, A.L., Boudinot, F.G., Sepúlveda, J., Jones, M.M., Sageman, B.B., Bralower, T.J. And Oakes, R., 2019, Coastal and Neritic Foraminifera of Utah: A Record of Oceanic Anoxic Event 2 (~94-93 Ma) in the US Western Interior Sea, Abstract 223-12, Geol. Soc. America Ann. Mtg., Phoenix, AZ.
- Kitch, G.D., Jacobson, A.D., Ankney, M.E., Masterson, A.L., Hurtgen, M.T., and Sageman, B.B., 2019, Calcium isotope composition ( $\delta^{44}/^{40}\text{Ca}$ ) of bulk carbonate spanning Ocean Anoxic Event 2: kinetic effects or diagenesis? Goldschmidt Conference, Barcelona, Spain.
- Linzmeier, B.J., Jacobson, A.D., Sageman, B.B., Hurtgen, M.T., Ankney, M.E., Petersen, S.V., and Tobin, T.S., 2019, Calcium isotope evidence for environmental change before and across the K-Pg extinction. Goldschmidt Conference, Barcelona, Spain.
- Bryant, R., Leckie, R.M., Sageman, B.B. And Jones, M. M., 2018, High-Resolution Foraminiferal And Stable Isotope Record from the Tokay Tongue (Mancos Shale) through the onset of Oceanic Anoxic Event 2, Abst. 235-12, Abst. with Program, Geological Society of America Ann. Mtg., Indianapolis, IN, Nov. 4-7, 2018.
- Dawson, R.R., Hull, P.M., Pagani, M., Sageman, B.B., Mcgregor, D.A., Ivany, L.C., Landman, N. H., Cochran, J. K., and Affek, H.P., 2018, Evolution of Late Cretaceous Meridional Temperature Gradients, Abst. 222-4, Abst. with Program, Geological Society of America Ann. Mtg., Indianapolis, IN, Nov. 4-7, 2018.
- Linzmeier, B., Jacobson, A.D., Sageman, B.B., Hurtgen, M.T., Ankney, M.E. and Landman, N.H., 2018, Using Sub-Fossil and Historic *Nautilus* to Test Potential Links Between Calcium Isotope Fractionation and  $p\text{CO}_2$ , Abst. 37-7, Abst. with Program, Geological Society of America Ann. Mtg., Indianapolis, IN, Nov. 4-7, 2018.
- Liu, Z., Selby, D., Zhang, H., Zheng, Q., Shen, S. and Sageman, B.B., 2018, Volcanism Driven Carbon Isotope Fractionation across the Wuchiapingian-Changhsingian Boundary Interval: Implications from  $^{187}\text{Os}/^{188}\text{Os}$  Isotope Stratigraphy, Abst. 194-3, Abst. with Program, Geological Society of America Ann. Mtg., Indianapolis, IN, Nov. 4-7, 2018.
- Liu, Z., Selby, D., Sageman, B.B., and Percival, L.M.E., 2018, Twice The Bang: Comet Impact and Volcanism Jointly Contributed to the Paleocene–Eocene Thermal Maximum, Abst. 256-10, Abst. with Program, Geological Society of America Ann. Mtg., Indianapolis, IN, Nov. 4-7, 2018.
- Sageman, B.B., Jones, M. M., Arthur, M.A., Sepulveda, J., and Boudinot, F.G., 2018, Colder or Drier? The Late Cenomanian Plenus Event in North America, Abst. 235-13, Abst. with Program, Geological Society of America Ann. Mtg., Indianapolis, IN. Nov. 4-7, 2018

- Sepúlveda, J., Boudinot, F.G., Dildar, N., Kopf, S., Jones, M.M., Sageman, B.B., Bralower, T. and Leckie, R. M., 2018, A High-Resolution Record of Marine Productivity and Carbon Cycling Across Oceanic Anoxic Event 2 in the Western Interior Seaway, Abst. 235-14, Abst. with Program, Geological Society of America Ann. Mtg., Indianapolis, IN, Nov. 4-7, 2018.
- Holmden, C., Jacobson, A.D., Sageman, B.B., Hurtgen, M., and Dickson, A., 2018, Deciphering the Unexpected Response of the Cr Isotope Proxy to OAE 2, Goldschmidt Conference, Boston, MA, Aug. 12-17, 2018.
- Ibarra, D.E., Jones, M.M., Caves Rugenstein, J.K., Sageman, B.B., Graham, S.A., Von Blanckenburg, F., and Chamberlain, C. P., 2018, Quantifying terrestrial weathering across Oceanic Anoxic Event 2, Goldschmidt Conference, Boston, MA, Aug. 12-17, 2018.
- Linzmeier, B.J., Sageman, B.B., Jacobson, A.D., Hurtgen, M.T., Ankney, M.E., Petersen, S.V., And Tobin, T.T., 2018, Linking Deccan volcanism and the bolide impact with Calcium isotope stratigraphy from the Late Maastrichtian of Seymour Island, Antarctica, Goldschmidt Conference, Boston, MA, Aug. 12-17, 2018.
- Ma, C., Meyers, S.R., and Sageman, B.B., 2018, Integrating Multiple Clocks in the Earth History and its Applications in Geology and Astronomy, Goldschmidt Conference, Boston, MA, Aug. 12-17, 2018.
- Jones, M.M., Schuette, C., Sageman, B.B., And Leckie, R.M., 2018,  $\delta^{18}\text{O}$  records of circulation, sea level, and climate in the Western Interior Seaway during OAE2, Goldschmidt Conference, Boston, MA, Aug. 12-17, 2018.
- Holmden, C., Jacobson, A.D., Sageman, B.B., and Hurtgen, M.T., 2017, A Cr isotope fingerprint of submarine LIP volcanism, Goldschmidt Conference, Paris.
- Hurtgen, M.T., Wang, J., Jacobson, A.D., and Sageman, B.B., 2017, Radiogenic and stable Sr isotope records reveal changes in weathering and carbonate burial rates following Marinoan glaciation, Abst. with Prog., GSA Annual Meeting, Seattle, WA.
- Ma, C., Meyers, S.R., Sageman, B.B., 2017, Constraining Orbital Solutions using the Cretaceous Geological Record, Abst. with Prog., GSA Annual Meeting, Seattle, WA.
- Sageman, B.B., Jones, M.M., and Selby, D., 2017, Integrated cyclostratigraphic and chemostratigraphic analysis of Cenomanian-Turonian deposits of the Western Interior basin, Abst. with Prog., GSA Annual Meeting, Seattle, WA.
- Jones, M.M., Sageman, B.B., Oakes, R., Bralower, T.J., Leckie, R.M., and Parker, A.L., 2017, Astronomical pacing of relative sea level through OAE2 from the expanded SH#1 core, southern Utah, American Geophysical Union, Fall Meeting 2017: New Orleans, LA.
- Kitch, G.D., Jacobson, A.D., Hurtgen, M.T., Sageman, B.B., Harper, D.T., and Zachos, J.C., 2017, Calcium isotope ( $\delta^{44/40}\text{Ca}$ ) composition of *Morozovella Velascoensis* during the Paleocene Eocene Thermal Maximum ocean acidification event, American Geophysical Union, Fall Meeting 2017: New Orleans, LA.
- Todes, J.P., Jones, M.M., Sageman, B.B., And Osburn, M.R., 2017, Compound-specific hydrogen isotope records from Ocean Anoxic Event 2, Kaiparowits Plateau, Southern Utah, American Geophysical Union, Fall Meeting 2017: New Orleans, LA.
- Wang, J., Jacobson, A.D., Zhang, H., Ramezani, J., Sageman, B.B., Hurtgen, M.T., Bowring, S.A. and Shen, S., 2017, Ca and Sr isotope records support ocean acidification associated with end-Permian mass extinction, American Geophysical Union, Fall Meeting 2017: New Orleans, LA.

- Sageman, B.B., 2016, Evaluation of possible mechanisms for nutrient increase leading to Ocean Anoxic Event 2 (Cenomanian-Turonian), SEPM research conference on “*Oceanic Anoxic Events (OAEs)*”, November 2-7, Austin, TX, USA. [talk delivered by Matt Jones]
- Jones, M.M., Sageman, B.B., and Selby, D., 2016, Stratigraphic record of Oceanic Anoxic Events from the Western Interior Basin: New insights from osmium isotopes, SEPM research conference on “*Oceanic Anoxic Events (OAEs)*”, November 2-7, Austin, TX, USA.
- Jones, M.M., Sageman, B.B., Meyers, S.R., 2016, Coupling carbon isotopes with astrochronology and correlation techniques for Late Cretaceous chronostratigraphic refinement and paleoclimate reconstruction, Poster: PP51C-2318, American Geophysical Union, Fall Meeting 2016: San Francisco, CA
- Boudinot, F.G., Sepúlveda, J., Jones, M.M., Sageman, B.B., Bralower, T., Oakes, R.L., Leckie, R.M., and Parker, A.L., 2016, A High-Resolution Organic Geochemical Study of OAE2 in the U.S. Western Interior Seaway; Abst. with Prog., GSA Annual Meeting in Denver, Colorado, USA.
- Fortiz, V., Bralower, T.J., Arthur, M.A., Leckie, R.M., Sageman, B.B. and Sepulveda, J., 2016, Late Cretaceous Calcareous Nannofossil Assemblages of the Tropic Shale Formation during Oceanic Anoxia Event 2 (~93.9 Ma) in the U.S. Western Interior Seaway; Abst. with Prog., GSA Annual Meeting in Denver, Colorado, USA.
- Jones, M.M., Sageman, B.B., Selby, D., Oakes, R.L., Parker, A.L., Leckie, R.M., Bralower, T.J., 2016, Synchronous facies changes and quantified hiatuses at onset of mid-Cretaceous OAE2 in the Western Interior Basin (N. America); Abst. with Prog., GSA Annual Meeting in Denver, Colorado, USA.
- Meyers, S.R., and Sageman, B.B., 2016, Grand Cycles of the Niobrara Formation: From Gilbert to Chaos; Abst. with Prog., GSA Annual Meeting in Denver, Colorado, USA.
- Oakes, R. L., Jones, M.M., Fortiz, V., Fantle, M.S., Bralower, T. J., Arthur, M. A., and Sageman, B.B., 2016, Examining the Role of Volcanism on Biotic Changes at the Cenomanian-Turonian Boundary; Abst. with Prog., GSA Annual Meeting in Denver, Colorado, USA.
- Rooney, A.D., Selby, D., Lloyd, J. M., Roberts, D.H., Lückge, A., Sageman, B.B., and N. G. Prouty, 2016, Tracking millennial-scale Holocene glacial advance and retreat using Osmium isotopes: Insights from the Greenland Ice Sheet, European Geophysical Union.
- Parker, A. L., Leckie, R. M., Sageman, B. B. and Jones, M.M., 2016, Oceanic Anoxia Event 2 (~94 Ma) in the U.S. Western Interior Sea: High Resolution Foraminiferal Record of the Development of Anoxia in a Shallow Epicontinental Sea, Geol. Soc. America, Northeastern Section - 51st Annual Meeting (21-23 March 2016).
- Ibarra, D.E., Jones, M.M., Graham, S.A., Sageman, B.B., and C. Page Chamberlain, 2015, Investigating the Coniacian-Santonian in the Songliao Basin and possible links to Oceanic Anoxic Event 3, Abst. with Program, Geol. Soc. America Meeting, Baltimore MD.
- Jones, M.M., and Sageman, B.B., 2015, A 15-myr Late Cretaceous carbonate carbon isotope chemostratigraphy from the Western Interior basin for global correlation; Abst. with Program, Geol. Soc. America Meeting, Baltimore MD.
- Kukla, T. J., Sageman, B. B., Hurtgen, M. T., Kristall, B. and Jarvis, I., 2015, Comparative sulfur isotope study of the Mid-Cenomanian event and the Cenomanian-Turonian OAE2, Abst. with Program, Geol. Soc. America Meeting, Baltimore MD.
- Parker, A. L., Leckie, R. M., Sageman, B. B., Jones, M. M., Bralower, T. J. and Oakes, R., 2015, The onset of Oceanic Anoxia Event 2 (~94 Ma) in the U.S. Western Interior Sea: Foraminiferal response to the development of anoxia in a shallow epicontinental sea, Abst. with Program, Geol. Soc. America Meeting, Baltimore MD.



- Singer, B.S., Meyers, S. R., Sageman, B. B., Jicha, B. R., 2015, Improving Cretaceous time scale uncertainties via multi-collector  $^{40}\text{Ar}/^{39}\text{Ar}$  dating, Abst. with Program, Geol. Soc. America Meeting, Baltimore MD.
- Sageman, B.B., Hurtgen, M., Jacobson, A.D., and Selby, D., 2015, Multi-proxy study of Ocean Anoxic Event 2 (Cenomanian-Turonian) yields new perspective on the drivers for Mesozoic anoxic events, Abst. with Program, Amer. Geophys. Union, annual meeting, San Francisco.
- Holmden, C.E., Jacobson, A.D., Sageman, B.B., Hurtgen, M., 2015, Cr Isotope Response to Ocean Anoxic Event 2, Abst. with Program, Amer. Geophys. Union, annual meeting, San Francisco.
- Jones, M.M., Sageman, B., Selby, D. Oakes, R., Bralower, T., Parker, A., Leckie, R.M., Sepulveda, J., 2015, Combining local lithofacies and global geochemical signals to test the acidification hypothesis for onset of Oceanic Anoxic Event 2 in the U.S. Western Interior Basin, Abst. with Program, Amer. Geophys. Union, annual meeting, San Francisco.
- Sageman, B., 2015, Recent Advances in Late Cretaceous Geochronology and Chronostratigraphy, IAS 31<sup>st</sup> Meeting of Sedimentology, International Association of Sedimentologists, Krakow, Poland, June 22-25, 2015.
- Holmden C., Jacobson A. D., Hurtgen M. T., Sageman B. B., 2014, Marine carbonate  $\delta^{53}\text{Cr}$  values reflect inputs from LIP volcanism during OAE 2, Abst. with Program, American Geophysical Union Conference, San Francisco, CA, 2014.
- Jin, C., Li, W., Sageman, B., and Cusatis, G., 2014, Experimental characterization and modeling of the fracturing behavior of Marcellus shale, Abst. with Program, American Geophysical Union Conference, San Francisco, CA, 2014.
- Jacobson, A.D., Du Vivier, A.D.C., Lehn, G.O., Selby, D., Hurtgen, M.T., Sageman, B.B., 2014, Calcium isotope evidence for changes in the carbonate geochemistry of seawater across OAE 2, Abst. with Program, American Geophysical Union Conference, San Francisco, CA, 2014.
- Sageman, B.B., Joo, Y.J., and Jones, M.M., 2014, Recognition of Cryptic Sequence Boundaries and Condensed Sections in Mudrock Successions based on High-Resolution TOC and Carbonate Data, Geological Society of America Annual Fall Meeting, Vancouver, BC, Canada Oct.19-22, 2014.
- Jones, M.M., Ma, C., Meyers, S.R., and Sageman, B.B., 2014, Bridging the Turonian gap in the Mesozoic astronomical time scale via the integration of chemostratigraphic and cyclostratigraphic data from Demerara Rise, Geological Society of America Annual Fall Meeting, Vancouver, BC, Canada Oct.19-22, 2014.
- Hurtgen, M.T., Mills, J.V., Gomes, M.L., Kristall, B., Sageman, B.B., and Jacobson, A.D., 2014, Massive volcanism, evaporite deposition and the chemical evolution of the Cretaceous ocean, Geological Society of America Annual Fall Meeting, Vancouver, BC, Canada Oct.19-22, 2014.
- Holmden C., Jacobson A.D., Sageman B.B., Hurtgen M.T., 2014, Response of Cr isotope proxy to Ocean Anoxic Event 2, Goldschmidt Conference, Sacramento, CA, June 8-13, 2014.
- Sageman, B.B., Joo, Y.J., Singer, B.S., Meyers, S.R., Ma, C., Jicha, B.R., and Condon, D., 2013, Global application of revised Late Cretaceous time scale using integrated chemostratigraphy, biostratigraphy and geochronology, Paper No. 325-12, Geological Society of America *Abstracts with Programs*. vol. 45, p. 306.
- Jones, C. H., Zhong, S., Sageman, B.B., Farmer, G. L., 2013, How might the bottom matter? Provocations from an alternative model of the Laramide orogeny, Paper No. 293-6, Geological Society of America *Abstracts with Programs*. vol. 45, p. 291.

- Joo, Y.J., Hurtgen, M., and Sageman, B., 2013, Change in carbon and sulfur cycles during mid-Cenomanian event: a “failed OAE”? Abstract PP33B-1926 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
- Kristall, B., Hurtgen, M., and Sageman, B., 2013, Evaluating the relationship between the geochemical cycles of sulfur and carbon during the Early Cretaceous (Hauterivian), Abstract PP33B-1924 presented at 2013 Fall Meeting, American Geophysical Union, San Francisco, Calif., 3-7 Dec.
- Gomes, M.L., Mills, J., Hurtgen, M.T., and Sageman, B.B., 2013, Implications of variance in biogeochemical proxy records spanning Mesozoic Oceanic Anoxic Events: Abstract PP45B-02, presented at the 2013 Fall Meeting, American Geophysical Union, San Francisco, Calif., 3-7 Dec.
- Mills, J., Gomes, M.L., Sageman, B.B., Jacobson, A.D., and Hurtgen, M.T., 2013, Reinterpreting the Early Cretaceous Sulfur Isotope Records: Implications for the Evolution of Seawater Chemistry: Abstract PP33B-1925, presented at the 2013 Fall Meeting, American Geophysical Union, San Francisco, Calif., 3-7 Dec.
- Singer, B.S., Siewert, S.E., Meyers, S. R., Sageman, B. B., Condon, D., Jicha, B.R., Sawyer, D.A., and Obradovich, J. D., 2012, The Cretaceous Time Scale: Progress And Prospects From Radioisotopic Dating And Astrochronology, Paper No. 250-8, Geological Society of America *Abstracts with Programs*. Vol. 44, No. 7, p.588.
- Joo, Y.J., Hurtgen, M.T., and Sageman, B.B., 2012, Late Cretaceous Stable Carbon Isotope Chemostratigraphy, Western Interior Basin: A New Time-Calibrated Carbon Isotope Curve For Global Correlation, Paper No. 250-16, Geological Society of America *Abstracts with Programs*. Vol. 44, No. 7, p.589.
- Chao, M., Meyers, S. R., Sageman, B.B., Singer, B.S., Jicha, B.R., and Joo, Y.J., 2012, An Extended Astronomical Time Scale For The Cenomanian/Turonian Boundary Interval, Cretaceous Western Interior Basin (USA), Paper No. 250-17, Geological Society of America *Abstracts with Programs*. Vol. 44, No. 7, p.590.
- Mills, J.V.; Gomes, M.L.; Sageman, B.B.; Hurtgen, M.T., 2012, Testing the sulfate-phosphorous hypothesis for initiation of the early Aptian OAE1a, Abstract B31F-0492 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
- Gomes, M.L.; Mills, J.V.; Beckerman, L.G.; Mayer, A.; Sageman, B.B.; and Hurtgen, M.T., 2012, Are long-term trends in the sulfur isotope composition of Cretaceous seawater sulfate linked with Oceanic Anoxic Events? Abstract B24E-04, presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
- Lu, Z.; Zhou, X.; Junium, C.K.; Sageman, B.B.; Jenkyns, H., 2012, I/Ca records of local redox history for contrasting depositional environments during Cenomanian-Turonian OAE2, Abstract PP31B-2033, presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
- Meyers, S.R.; Singer, B.S.; Sageman, B.B.; Siewert, S.E.; Condon, D.J.; Jicha, B.R., 2012, The Radioisotopic Calibration of Astronomical Time: New Constraints from the Cretaceous Western Interior Basin, U.S.A. (*Invited*), Abstract PP33D-05 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.
- Chamberlain, P.; Wan, X.; Graham, S.A.; Carroll, A.R.; Doebbert, A.C.; Sageman, B.S., 2012, The Upper Cretaceous Climate Record Preserved in the Terrestrial Songliao Basin, China, Abstract PP51B-2109, presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

- Ma, C., Meyers, S. R., Sageman, B. B., Joo, Y. J., And Singer, B. S., 2011, Testing the Astronomical Time Scale for Oceanic Anoxic Event 2, and its Extension into Cenomanian Strata of the Western Interior Basin (U.S.A.), Geological Society of America Abstracts with Programs, v. 43, No. 5, p. 127.
- Gomes M.L., Mills J., Hurtgen M.T., Sageman B.B., 2011, Role of LIP-related changes in oceanic sulfate level for initiation of Cretaceous OAE's? Annual American Geophysical Union Meeting, San Francisco, CA.
- Joo Y.J., Hurtgen M., Sageman B., 2011, Stable carbon isotope chemostratigraphy and implications for global carbon cycling, Cretaceous Western Interior Basin. Annual V. M. Goldschmidt Conference, Prague, Czech Republic.
- Joo Y.J., Hurtgen M., Sageman B., 2011, Late Cretaceous Stable Carbon Isotope Chemostratigraphy, Western Interior Basin. Abstracts with Program, Geological Society of America *Abstracts with Programs*, v. 43, No. 5, p. 127.
- Meyers, S. R., Singer, B. S., Siewert, S. E., Sageman, B. B., Condon, D., Jicha, B. R., Sawyer, D. A., And Obradovich, J. D., 2011, Coupling Orbital and Radioisotopic Chronometers: Lessons Learned from the Cretaceous Western Interior Basin (U.S.A.), Geological Society of America *Abstracts with Programs*, v. 43, No. 5, p. 567.
- Singer, B. S., Condon, D., Jicha, B. R., Kuiper, K., Siewert, S. E., Meyers, S. R., Sageman, B. B., Sawyer, D. A., and Obradovich, J. D., 2011, A Cretaceous To Pleistocene Perspective On Intercalibrating  $^{40}\text{Ar}/^{39}\text{Ar}$  And U-Pb Radioisotopic Clocks, Geological Society of America *Abstracts with Programs*, v. 43, No. 5, p. 568.
- Li, X.N., Severmann, S., Owens, J., and Sageman, B., 2010, Hydrothermal contributions to oceanic anoxic event 2?, Annual Meeting of the Geochemical Society, Knoxville, Tennessee, Goldschmidt conference, June 2010.
- Barclay, R.S., McElwain, J.C., and Sageman, B.B., 2010, Linkage of terrestrial and marine records during OAE2 (94Ma), Annual Meeting of the Geochemical Society, Knoxville, Tennessee, Goldschmidt Conference Abstracts, p. A51.
- Barclay, R.S., Sageman, B. B., and McElwain, J.C., 2010, Approaching marine anoxia from dry land: Using plants to reconstruct  $\text{CO}_2$  and constrain the trigger mechanisms for Ocean Anoxic Event 2, 94 Mya, Geological Society of America, Abstracts with Programs, v. 42, No. 5, p. 660.
- Siewert, Sarah E., Singer, Brad S., Condon, Daniel, Obradovich, John D., Sageman, Bradley B., Meyers, Stephen R., Jicha, Brian R., And Sawyer, David A., 2010,  $^{40}\text{Ar}/^{39}\text{Ar}$  and U-Pb Dating of the Cretaceous Niobrara Formation, Geological Society of America, Abstracts with Programs, v. 42, No. 5, abstract 160-7.
- Meyers, Stephen R., Siewert, Sarah E., Singer, Brad S., Sageman, Bradley B., Condon, Daniel, Obradovich, John D., Jicha, Brian R., and Sawyer, David A., 2010, Reducing Error Bars through the Intercalibration of Radioisotopic and Astrochronologic Time Scales for the Cenomanian/Turonian Boundary Interval, Western Interior Basin, USA, Geological Society of America, Abstracts with Programs, v. 42, No. 5., abstract 160-8.
- Singer, Brad S., Condon, Daniel, Siewert, Sarah E., Meyers, Stephen R., Sageman, Bradley B., Obradovich, John D., Sawyer, David A., and Jicha, Brian R., 2010, Integrating Radioisotopic and Astrochronologic Time Scales for the Cretaceous, Geological Society of America, Abstracts with Programs, v. 42, No. 5., abstract 160-6.

- Sageman, Bradley B., 2010, Rapid Environmental and Climatic Changes in the Cretaceous: Western Interior Seaway Overview and Update, Geological Society of America, Abstracts with Programs, v. 42, No. 5., abstract 231-9. **invited lecture.**
- Adams, Derek D., Hurtgen, Matthew T., and Sageman, Bradley B., 2010, Highly Reactive Fe Limitation during Oceanic Anoxic Event 2, Geological Society of America, Abstracts with Programs, v. 42, No. 5., abstract 283-6.
- Kent-Corson, Malinda L., Chamberlain, C. Page, Wan, Xiaoqiao, Graham, Stephan A., Sageman, Bradley B., Blisniuk, Peter, Wang, Zhuo, and Wang, Chengshan, 2010, Stable Isotopic Evidence for Climate and Basin Evolution of the Late Cretaceous Songliao Basin, China, Geological Society of America, Abstracts with Programs, v. 42, No. 5., abstract 231-8.
- Barclay, R.S., Joo, Y., Adams, D., Hurtgen, M.T., McElwain, J.C., and Sageman, B.B., 2010, Reconciling pCO<sub>2</sub> estimates and stable isotope records (S & C) with a global carbon cycle model during the Cenomanian-Turonian OAE2, 2010, Abstract PP21E-02, Annual Fall Meeting of the American Geophysical Union, San Francisco, Calif., 13-17 Dec.
- Meyers, S. R., Siewert, S. E., Singer, B. S., Sageman, B. B., Condon, D. J., Obradovich, J. D., Jicha, B., Sawyer, D. A., 2010, Reducing Error Bars through the Intercalibration of Radioisotopic and Astrochronologic Time Scales for the Cenomanian/Turonian Boundary Interval, Western Interior Basin, USA, Abstract V31A-2302, Annual Fall Meeting of the American Geophysical Union, San Francisco, Calif., 13-17 Dec.
- Sageman, B. B., Hurtgen, M. T., McElwain, J., Adams, D., Barclay, R. S., Joo, Y., 2010, Evidence For Volcanic Initiation Of Cretaceous Ocean Anoxic Events (*Invited*), Abstract V14B-06, Annual Fall Meeting of the American Geophysical Union, San Francisco, Calif., 13-17 Dec. **invited lecture.**
- Singer, B. S., Condon, D. J., Siewert, S. E., Sageman, B. B., Sawyer, D. A., Obradovich, J. D., Meyers, S. R., Jicha, B., 2010, The Next Generation Cretaceous Time Scale: How to integrate 40Ar/39Ar, U-Pb and Astrochronologic ages? (*Invited*), abstract V23C-01, Annual Fall Meeting of the American Geophysical Union, San Francisco, Calif., 13-17 Dec.
- Sageman, B.B., 2011, The Sulfate-Phosphate Hypothesis For Oceanic Anoxic Event 2, Climate and Ocean Dynamics in the Greenhouse World, University of Utrecht Symposium, The Netherlands, Jan. 26-28. **invited lecture.**
- Du Vivier, Alice D.C., Selby, David, Gröcke, Darren R., Sageman, Bradley B. and Silke Voigt, 2011, Diversity of Osmium isotopes: Implications for the driving mechanisms of OAE 2, palaeo-circulation and duration of the Caribbean large igneous province, Climate and Ocean Dynamics in the Greenhouse World, University of Utrecht Symposium, The Netherlands, Jan. 26-28.
- Hurtgen, M., Adams, D., and Sageman, B., and Gomes, M.L., 2009, The Role of Sulfur in Regulating the Exogenic Cycles of Carbon & Oxygen on Early Earth: Lessons Learned from Modern Lakes & Cretaceous Oceanic Anoxic Event 2, *Eos Trans. AGU*, 90(52), Fall Meet. Abstr. B12A-07.
- Hurtgen, M., Adams, D., and Sageman, B., 2009, Volcanic Activation of Oceanic Anoxic Event 2 and the Role Sulfur Plays In Regulating The Marine Carbon Cycle, Geological Society of America, Annual Meeting, *Abstracts with Programs*, Vol. 41, No. 7, p. 239.
- Joo, Y.J., Sageman, B. B., and Hurtgen, M. T., 2009, Carbon, Phosphorus and Sulfur cycling during the Cenomanian-Turonian OAE2 in the Western Interior seaway, Geological Society of America, Annual Meeting, *Abstracts with Programs*, Vol. 41, No. 7, p. 567.
- Jee, B. D., Gentner, D., Forbus, K., Sageman, B., & Uttal, D. H., 2009, Sketches of thought: Using verbal descriptions and sketching as indices of causal knowledge in geoscience. Paper presented at the 50th Annual Meeting of the Psychonomic Society. Boston, MA.

- Jee, B. D., Gentner, D., Forbus, K., Sageman, B., & Uttal, D. H., 2009, Drawing on Experience: Use of sketching to evaluate knowledge of spatial scientific concepts. Paper presented at the 31st Conference of the Cognitive Science Society. Amsterdam, The Netherlands.
- Jee, B. D., Gentner, D., Forbus, K., Sageman, B., & Uttal, D. H., 2009, Use of CogSketch to explore expert-novice differences in spatial knowledge of geoscience. Paper presented at the Conference on Research and Training in Spatial Intelligence. Evanston, IL.
- Koehler, L., Jee, B. D., Uttal, D., Gentner, D., & Sageman, B., 2009, The use of analogical comparison in spatial learning. Poster for annual meeting of the Northwestern Undergraduate Research Symposium. Evanston, IL.
- Sageman, B., Hurtgen, M., Adams, D., Barclay, R., and Joo, Y.J., 2009, OAE's and the Interdependence of P, N and Trace Metals, 2009, Goldschmidt Conference, Abstracts, *Geochimica Cosmochimica Acta*, v. 73, Issue 13 Supplement 1 (June 2009), p. A1141.
- Singer, B.S., Sageman, B.B., Siewert, S.E., Condon, D., Obradovich, J.D., Jicha, B.R., Sawyer, D.A., and Meyers, S.R., 2009, Implications of New  $^{40}\text{Ar}/^{39}\text{Ar}$  and U-Pb Ages for Cenomanian-Turonian OAE2, Geological Society of America, Annual Meeting, *Abstracts with Programs*, Vol. 41, No. 7, p. 239.
- Singer, B.S., Siewert, S. E., Sageman, B.B., Jicha, B. R., Obradovich, J. D., Meyers, S.R., and Sawyer, D.A.,  $^{40}\text{Ar}/^{39}\text{Ar}$  Calibration of the Cenomanian-Turonian Boundary and Implications, Abstracts with Program, 8<sup>th</sup> International Symposium on the Cretaceous System, University of Plymouth, UK.
- Barclay, R., McElwain, J., and Sageman, B., 2009, Stomata and Isotopes demonstrate carbon cycle linkage 94 Mya, Goldschmidt Conference, Abstracts, *Geochimica Cosmochimica Acta*, v. 73, Issue 13 Supplement 1 (June 2009), p. A86.
- Hurtgen, M., Adams, D., and Sageman, B., and Gomes, M.L., 2009, The Role of Sulfur in Regulating the Exogenic Cycles of Carbon and Oxygen on Early Earth: Lessons Learned from Modern Lakes and Cretaceous Oceanic Anoxic Event 2, *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract B12A-07.
- Hurtgen, M., Adams, D., and Sageman, B., 2009, Volcanic Activation of Oceanic Anoxic Event 2 and the Role Sulfur Plays In Regulating The Marine Carbon Cycle, Geological Society of America, Annual Meeting, *Abstracts with Programs*, Vol. 41, No. 7, p. 239.
- Joo, Y.J., Sageman, B. B., and Hurtgen, M. T., 2009, Carbon, Phosphorus and Sulfur cycling during the Cenomanian-Turonian OAE2 in the Western Interior seaway, Geological Society of America, Annual Meeting, *Abstracts with Programs*, Vol. 41, No. 7, p. 567.
- Adams, D.D., Hurtgen, M.T., Sageman, B.B., And Flaum, J.A., 2008, Contrasting Sulfur Isotope and Iron Speciation Measurements across Paleoenvironmental Gradients during the Cenomanian-Turonian Oceanic Anoxic Event (OAE2), 2008 Joint Meeting of The Geological Society of America, Houston YX, Oct. 5-8, Geological Society of America *Abstracts with Programs*, Vol. 40, No. 6, p. 454.
- Barclay, R., McElwain, J. C. and Sageman, B. B., 2008, Atmospheric CO<sub>2</sub> through Oceanic Anoxic Event II, Late Cretaceous (94Ma), 2008 Joint Meeting of The Geological Society of America, Houston YX, Oct. 5-8, Geological Society of America *Abstracts with Programs*, Vol. 40, No. 6, p. 100.
- Jee, B. D., Uttal, D. H., Gentner, D., Manduca, C., Shipley, T., Sageman, B., Ormand, C. J., & Tikoff, B., 2008, Hard as a rock? Using progressive alignment to facilitate perceptual learning in geoscience. Poster presented at the 49<sup>th</sup> Annual Meeting of the Psychonomic Society. Chicago, IL.

- Jee, B. D., Uttal, D. H., Gentner, D., Manduca, C., Shipley, T., Sageman, B., Ormand, C. J., & Tikoff, B., 2008, It's (sometimes) easy to find *fault*: Comparison and perceptual learning of a spatial Geoscience concept by experienced and inexperienced students. Paper presented at the Conference on Research and Training in Spatial Intelligence. Evanston, IL.
- Carlin, M., Jee, B. D., Uttal, D., Gentner, D., & Sageman, B., 2008, Finding *Fault*: The role of comparison in learning a geological structure. Poster presented at the annual meeting of the Northwestern Undergraduate Research Symposium. Evanston, IL.
- Manduca, C.A., Gentner, D., Holden, M.P., Ormand, C. J., Jee, B., Sageman, B.B., Shipley, T.F., Tikoff, B., and Uttal, D.H., 2008, Geoscience Perception: Expert and Novice Experience of Graphs, Outcrops, and Landscapes, 2008 Joint Meeting of The Geological Society of America, Houston YX, Oct. 5-8, Geological Society of America *Abstracts with Programs*, Vol. 40, No. 6, p. 418.
- Meyers, S., Sageman, B. B., and Arthur, M., 2008, Amplification of Obliquity Forcing during Oceanic Anoxic Event 2, 2008 Joint Meeting of The Geological Society of America, Houston YX, Oct. 5-8, Geological Society of America *Abstracts with Programs*, Vol. 40, No. 6, p. 283.
- Locklair, R.E., and Sageman, B.B., 2007, Enrichment of organic carbon and carbonate in the Upper Cretaceous Niobrara Formation, Western Interior Basin: The role of siliciclastic flux: American Association of Petroleum Geologists, Rocky Mountain Section, October 7-9, 2007, Snowbird, UT.
- Sageman, B.B., Locklair, R.E., and Meyers, S.R., 2007, Development of orbital time scales for Cenomanian through Campanian time, Western Interior, U.S.: Inaugural meeting of IGCP project 555 and ICDP workshop on scientific drilling in Songliao Basin, Daqing, China.
- Locklair, R., and Sageman, B., 2007, Cyclostratigraphy of the PETM: Implications for the Cretaceous terrestrial record: Inaugural meeting of IGCP project 555 and ICDP workshop on scientific drilling in Songliao Basin, August 28-30, 2007, Daqing, China.
- Flaum, J., Jacobson, A.D., and Sageman, B., 2007, The Atmospheric Supply of Terrestrial Authigenic Phosphate Minerals to Open Marine Sediments, *Eos Trans. American Geophysical Union*, 88(52), Fall Meet. Suppl., Abstract OS31C-06.
- Flaum, J., and Sageman, B., 2007, Potential diagenesis of authigenic phosphate minerals over geologic timescales: implications for interpretations of the marine phosphorus cycle in the geologic past, Geological Society of America, Annual Meeting, Denver, CO, Oct. 28-31, 2007, *Abstracts with Program*, Vol. 39, No. 6, p. 497.
- Carney, C., Flaum, J., and Sageman, B., 2007, Increased P delivery vs. P-recycling in the Appalachian basin, Geological Society of America, Annual Meeting, Denver, CO, Oct. 28-31, 2007, *Abstracts with Program*, Vol. 39, No. 6, p. 497.
- Jones, C. H., Farmer, G. Lang, Sageman, B., and Zhong, S., 2007, Exploring an alternative explanation for the Laramide orogeny, Geological Society of America, Annual Meeting, Denver, CO, Oct. 28-31, 2007, *Abstracts with Program*, Vol. 39, No. 6, p. 53.
- Sageman, B.B., Locklair, R., and Meyers, S., 2007, Development of orbital time scales for Cenomanian through Campanian time, Western Interior, U.S., IGCP Project 555 and ICDP Workshop On Scientific Drilling In Songliao Basin, August 28-30, 2007, Daqing, China, **invited lecture.**

- Adams, D., Hurtgen, M., Sageman, B., and Flaum, J., 2006, The Sulfur Isotope Composition of Carbonate-Associated Sulfate and Pyrite From the Middle Cretaceous Western Interior Seaway, *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract xxxxx-xx.
- Barclay, R., McElwain, J., and Sageman, B., 2006, Ecological change across the Cenomanian-Turonian boundary, Geological Society of America, Annual Meeting, Philadelphia, PA, Oct. 22-25, 2006, Abstracts with Program, 137-15.
- Flaum, Jason A., Sageman, Bradley B., Meyers, Stephen R., and Hurtgen, Matthew T., 2006, Causal mechanisms for OAE'S III: The role of Phosphorous? Geological Society of America, Annual Meeting, Philadelphia, PA, Oct. 22-25, 2006, Abstracts with Program, 211-9.
- Flaum, J. A., Sageman, B. B., Hurtgen, M., Dejtrakulwong, P., 2006, Controls on Phosphorus Recycling during Cretaceous Oceanic Anoxic Events, American Society of Limnology and Oceanography Summer Meeting Abstracts, p. xx.
- Locklair R.E. and Sageman B.B., 2006, Temporal and Spatial Lithofacies Variability in the Upper Cretaceous Niobrara Formation of the Western Interior Basin: Primary Depositional Factors and Shale Gas Potential. The Rocky Mountain Association of Geologists 2006 Fall Symposium on Shale Gas: From Grass Roots Exploration to Production, Denver, CO.
- Locklair R.E. and Sageman B.B., 2006, Evaluation of tectonic and oceanographic forcing factors on the formation of exceptionally carbonate-rich hemipelagic facies, Cretaceous Western Interior basin. Geological Society of America, Annual Meeting, Philadelphia, PA, Oct. 22-25, 2006, Abstracts with Program, 157-10.
- Locklair R.E., Sageman B.B. and Lerman A., 2006, Carbon Isotope Excursions, Chalk Seas, and Black Shales: A new Look at Oceanic Anoxic Event III. *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract xxxxx-xx.
- Meyers, S. R., And Sageman, B. B., 2006, Causal mechanisms for OAE's I: The Role of Iron? Geological Society of America, Annual Meeting, Philadelphia, PA, Oct. 22-25, 2006, Abstracts with Program, 211-10.
- Sageman, B.B., 2006, Multi-Proxy Approach to Understanding the Initiation and Termination of OAE II, European Geophysical Union, April 3-7, 2006, Vienna, Austria, **invited lecture**.
- Sageman, B.B., 2006, Marine-terrestrial linkages during a Cretaceous Ocean Anoxic Event, American Association for Advancement of Science, Annual Meeting St. Louis, MO, Feb. 17, 2006. **invited lecture**.
- Sageman, B. B., Barclay, R. S., and Meyers, S. R., 2006, Causal mechanisms for OAE's II: The role of weathering? Geological Society of America, Annual Meeting, Philadelphia, PA, Oct. 22-25, 2006, Abstracts with Program, 211-11.
- Barclay, R.S., McElwain, J., Sageman, B., And Kenig, F., 2005, Testing the pCO<sub>2</sub> drawdown hypothesis at the Cenomanian-Turonian boundary using fossil plant cuticle, Earth System Processes 2 Meeting, Calgary, August 8-11, 2005, Geological Society of America Abstracts with Programs, p. 48.
- Borges, J.B., and Sageman, B.B., 2005, Mineralogical Control on Mineral Surface Measurements and its Relationship to Organic Carbon Concentrations in Sediments, Geological Society of America *Abstracts with Programs*, Vol. 37, No. 7, p. 311.
- Flaum, J. A., Sageman, B. B., Dejtrakulwong, P., 2005, Phosphorus cycling during transgressive phase of the Cenomanian-Turonian Greenhorn cyclothem, Western Interior basin, Geological Society of America *Abstracts with Programs*, Vol. 37, No. 7, p. 458.

- Laurin, J. and \*Sageman, B.B., 2005, Controls on stratigraphic architecture of Cenomanian-Turonian strata, Western Interior basin, Geological Society of America *Abstracts with Programs*, Vol. 37, No. 7, p. 337
- Meyers, S. R., and Sageman, B. B., 2005, Resolving Milankovitch in the paleoclimate record: Consideration of signal and noise, Geological Society of America *Abstracts with Programs*, Vol. 37, No. 7, p. 525.
- Sageman, B.B., 2005, *Causal Factors for Cretaceous OAE's: Insights From the Cenomanian-Turonian*, COE Program for Neo-Science of Natural History, OAE Symposium, University of Hokkaido, Sapporo, Japan, Sept. 21-23, 2005, invited speaker.
- Sageman, B.B., 2005, *The temporal record of C-cycling and black shales; Orbital Time Scales and Proxy Records from Cretaceous OAE's*, NSF-Sponsored Workshop on Proxies, December 10-11, 2005, Hotel Nikko, San Francisco, invited speaker.
- Lyons, T.M., Sageman B.B., and Anbar, A., 2005, presided for session T6. *Marine Anoxia over Geologic Time—Where, When, Why, and Cause and Effect Relationships to the Evolving Biosphere*, Earth System Processes II Meeting, Calgary, August 8-11, 2005.
- Flaum, J., and Sageman, B., 2004, Comparison of phosphorus, organic carbon, carbonate, and iron burial in Cenomanian-Turonian strata of the Western Interior basin, Abstracts with Program, Annual Geological Society of America Meeting, Denver, CO, Nov. 7-10, 2004.
- Locklair, R. E. and Sageman, B. B., 2004, Development of Coniacian-Santonian orbital timescale and comparative estimates of primary production vs. dilution for Late Cretaceous chalk facies, Abstracts with Program, Annual Geological Society of America Meeting, Denver, CO, Nov. 7-10, 2004.
- Meyers, S. R., and Sageman, B. B., 2004, Cenomanian/Turonian Orbital Chronologies and Burial Flux Estimates: Calibrating the Biogeochemical Reconstruction of Oceanic Anoxic Event II, Abstracts with Program, Annual Geological Society of America Meeting, Denver, CO, Nov. 7-10, 2004.
- Pancoskova, P., Locklair, R., and \*Sageman, B. B., 2003, The Relationship Between Stratigraphic Architecture and Basinal Sediment Flux: Examples from the Santonian Emery Sandstone Member of the Mancos Shale and the Niobrara Formation, Western Interior basin, Abstracts with Program, Annual Geological Society of America Meeting, Denver, CO, Nov. 7-10, 2004, p. A345.
- Sageman, B.B., Arthur, M.A., Kenig, F., Laurin, J., McElwain, J.C., and Meyers, S.R., 2004, The Cenomanian-Turonian Boundary Event: Linkage of High-Resolution Terrestrial and Marine Records of a Major Climate Perturbation During Peak Greenhouse Conditions, Abstracts with Program, American Geophysical Union.
- Williams, G., Anbar, A. Lyons, T., Sageman, B. and Arnold, G.L., 2004, The redox state of Devonian oceans: Mo isotope evidence, Abstracts with Program, Annual Geological Society of America Meeting, Denver, CO, Nov. 7-10, 2004, p.
- Sageman, B.B., Meyers, S.R., and Lyons, T.W., 2003, Role of sulfate reduction in organic matter degradation and molybdenum accumulation: Theoretical framework and application to Cenomanian-Turonian organic matter burial event, Goldschmidt Conference, Sept. 7-12, 2003, Kurashiki, Japan, *Geochimica Cosmochimica Acta*, v. 67 (18, S1), p. A407.
- Borges, J. B. and Sageman, B. B., 2003, Comparative analysis of mineral surface area relative to other controls on organic matter enrichment in ancient fine-grained facies, Abstracts with Program, Annual Geological Society of America Meeting, Seattle, WA, Nov. 2-5, 2003.



- Fortwengler, M., Sageman, B., Mcelwain, J., And Kenig, F., 2003, Integrated paleobiological and geochemical assessment of carbon cycle perturbations and climate change during Cenomanian-Turonian OAE II, North America, Abstracts with Program, Annual Geological Society of America Meeting, Seattle, WA, Nov. 2-5, 2003.
- Locklair, R. E. and Sageman, B. B., 2003, Use of spectral techniques for evaluation of orbital forcing of sedimentation in the Upper Cretaceous (Turonian-Campanian) Niobrara Formation, Western Interior, USA, Abstracts with Program, Annual Geological Society of America Meeting, Seattle, WA, Nov. 2-5, 2003.
- Lyons, T. W., Anbar, A. D., Gill, B. C., Meyers, S. R., Sageman, B. B., Cruse, A. M., Wilde, P., and Scott, C. T., 2003, Molybdenum accumulation in organic-rich sediments and sedimentary rocks, Abstracts with Program, Annual Geological Society of America Meeting, Seattle, WA, Nov. 2-5, 2003.
- Meyers, S. R., Sageman, B. B., and Lyons, T. W., 2003, The role of sulfate reduction in organic matter degradation and molybdenum accumulation: theoretical framework and application to a Cretaceous organic matter burial event, Abstracts with Program, Annual Geological Society of America Meeting, Seattle, WA, Nov. 2-5, 2003.
- Pancoskova, P., and \*Sageman, B. B., 2003, Analysis of nearshore stratigraphic architecture of Middle Santonian to Early Campanian deposits of the Western Interior basin, Utah, U.S.A., Abstracts with Program, Annual Geological Society of America Meeting, Seattle, WA, Nov. 2-5, 2003.
- Sageman, B.B., and Lyons, T.W., 2003, Integrated conceptual model for the biogeochemistry of black shales and oxygen-deficient marine environments, Abstracts with Program, Annual Geological Society of America Meeting, Seattle, WA, Nov. 2-5, 2003.
- Meyers, S.R., and Sageman, B.B., 2002, Analysis of sediment/geochemical accumulation rates and molluscan evolutionary rates during the Cenomanian-Turonian biotic crisis, Western Interior Seaway, JOI/USSSP/NSF Workshop on Cretaceous Climate-Ocean Dynamics, Flourissant, CO, July 14-17, 2002.
- Laurin, J., Sageman, B.B., Meyers, S.R., and Waltham, D.A., 2002, Relative sea level history of the uppermost Cenomanian of southwestern Utah: evidence for Milankovitch-driven eustasy? JOI/USSSP/NSF Workshop on Cretaceous Climate-Ocean Dynamics, Flourissant, CO, July 14-17, 2002; Abstract Volume, p. 48-49.
- Meyers, S.R. and Sageman, B.B., 2002, Production and Preservation in the Cretaceous Western Interior Sea, Gordon Research Conference on Organic Geochemistry, Holderness, NH, July 28 - August 2, 2002.
- Laurin, J., and Sageman, B.B., 2001, Depositional and relative sea level history of the Cenomanian/Turonian interval, Dakota and Straight Cliffs Formations of the Western Interior Basin, SW Utah. *Geolines*, v. 13, p. 88.
- Locklair, R. and Sageman, B., 2002, Organic-rich siltstones in the Permian Brushy Canyon Formation, West Texas: Does grain size matter? Abstracts with Program, Southeastern/North-Central Regional Geological Society of America Meeting, April 4, 2002, Lexington, KY.
- Meyers, S.R., Sageman, B., and Hollander, D., 2002, Orbital time scales, ocean anoxic events, and controls on the accumulation of organic carbon in the Cretaceous Western Interior Seaway, Abstracts with Program, Southeastern/North-Central Regional Geological Society of America Meeting, April 4, 2002, Lexington, KY.
- Locklair, R. and Sageman, B., 2002, Origin, character, and stratigraphic hierarchy of organic-rich siltstones in deep-water facies, Upper Permian (Guadalupian) Brushy Canyon Formation, west Texas, Annual Meeting, Society for Organic Petrology, Houston, Texas, March 3-6, 2002.

- Sageman, B.B., and Arthur, M. A., 2001, Role of enhanced nutrient recycling and eutrophication in development of Devonian organic carbon-rich deposits: data and modeling results from the Appalachian Basin. Abstracts with Program, Annual Geological Society of America Meeting, Boston, MA, Nov. 1-10, 2001, p. A39.
- Williams, M. J. and Sageman, B. B., 2001, Analysis of organic carbon accumulation across a bulk sedimentation gradient: Late Cenomanian, Hartland Shale Member, Western Interior U.S., Abstracts with Program, Annual Geological Society of America Meeting, Boston, MA, Nov. 1-10, 2001, p. A101.
- Meyers S. R, and Sageman, B. B., 2001, Identification and interpretation of sedimentary hiatus using evolutive harmonic analysis, Abstracts with Program, Annual Geological Society of America Meeting, Boston, MA, Nov. 1-10, 2001, p. A442.
- Sageman, B.B., Meyers, S.R., and Hinnov, L.A., 2001, Use of Orbital Time Scale to Evaluate Molluscan Biozones and Evolutionary Rates during the Late Cenomanian-Early Turonian, Western Interior Basin (USA), Eos, Transactions of American Geophysical Union, Fall Meeting Abstracts, San Francisco, CA, Dec. 9-14, 2001, p. 1140.
- Laurin, J., and \*Sageman, B.B., 2000, Test case for evaluating relative roles of eustasy, tectonics and sediment supply in a foreland basin, Abstracts with Program, Annual Geological Society of America Meeting, Reno NV, Nov. 9-18, 2000, p. A155.
- Meyers, S. R., and Sageman, B. B., 2000, Quantitative cyclostratigraphic analysis of late Cenomanian-early Turonian deposits of the Cretaceous Western Interior (North America), Abstracts with Program, Annual Geological Society of America Meeting, Reno NV, Nov. 9-18, 2000, p. A145.
- Sageman, B.B., 2000, Recent advances in the study of ancient marine source rocks, Gordon Research Conference on Organic Geochemistry, Holderness School, Plymouth, New Hampshire, Aug 13-18, 2000.

### **Workshops/Research Group Meetings**

- Invited speaker, NSF-EARTHTIME workshop, Oct. 2016, Denver Federal Center: *Stratigraphic integration of geochronologic data.*
- Invited speaker, Rocky Mountain Section, Society for Sedimentary Geology, monthly luncheon lecture, Feb 28, 2014. *Development of Cenomanian-Campanian chronostratigraphy for the resource-rich facies and basins of the Western Interior region.*
- Invited Participant, NSF *EARTHcube* Workshop, Oct. 1-3, 2013, University of Wisconsin-Madison.
- Co-organizer, NSF-SEES workshop, *Natural and Engineered Carbon Sequestration*, in assoc. with Geol. Soc. Amer. Meeting, Minneapolis, MN, October 7-8, 2011.
- Co-organizer, NSF-workshop, *An Internet Resource for Integrating Plate Tectonic and Paleogeographic Mapping with On-line Earth Science Databases*, Field Museum, July 19-21, 2011.
- Invited Participant, NSF Sponsored Workshop on Earth-Time Program, Sept. 11-12, 2006, Santa Fe Institute, Santa Fe, New Mexico.

Invited speaker, Colorado Energy Research Institute and Colorado School of Mines, Meeting of Research Consortium in Shale Gas, May 9, 2006,

Invited speaker, presented *Causal Factors for Cretaceous OAE's: Insights From the Cenomanian-Turonian*, COE Program for Neo-Science of Natural History, OAE Symposium, University of Hokkaido, Sapporo, Japan, Sept. 21-23, 2005.

Invited speaker, presented *The temporal record of C-cycling and black shales; Orbital Time Scales and Proxy Records from Cretaceous OAE's*, NSF-Sponsored Workshop on Proxies, December 10-11, 2005, Hotel Nikko, San Francisco.

Session co-chair for session T6. *Marine Anoxia over Geologic Time—Where, When, Why, and Cause and Effect Relationships to the Evolving Biosphere*, Earth System Processes II Meeting, Calgary, August 8-11, 2005, with T. Lyons, T.M. and A. Anbar.

Invited Participant, NSF Deep-Time GeoSystems Workshop, Sept. 9-11, 2004, NSF Headquarters, Arlington, VA.

Invited Participant, First NSF Deep-Time Paleoclimate Workshop, May 15-17, 2003, NSF Headquarters, Arlington, VA.

Organizer/host/speaker for first Midcontinent Miniconference on “Innovations in Stratigraphic, Biogeochemical, and Geomicrobiological Studies,” July 14-15, 2000, Department of Geological Sciences, Northwestern University; workshop supported by NU Environmental Council.

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