

GREGORY ALAN LUDVIGSON *CURRICULUM VITAE*

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Married, two adult children



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EDUCATION:

- Ph.D.: Geology, (1988), The University of Iowa, Committee Chair: Dr. P. H. Heckel (retired); Dissertation title: "Petrology of fault-related diagenetic features in Paleozoic carbonate rocks of the Plum River Fault Zone, eastern Iowa and northwestern Illinois."
M.S.: Geology (1976), The University of Iowa, Thesis advisor: Dr. R. A. Hoppin (deceased); Thesis title: "LANDSAT-1 Identified linears in northeast Iowa and southwest Wisconsin and their relation to the Ordovician stratigraphy, structure, and sulfide mineralization of the area."
B.S.: Geology (1972), The University of Iowa.

PROFESSIONAL EXPERIENCE:

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| Aug. 2022-present | Senior Scientist, Emeritus—Kansas Geological Survey, The University of Kansas. |
| July 2012-Aug. 2022: | Senior Scientist—Kansas Geological Survey, The University of Kansas |
| Jan. 2015-Aug. 2020 | Chief, Stratigraphic Research Section—Kansas Geological Survey, The University of Kansas |
| Oct. 2005-June 2012: | Associate Scientist—Kansas Geological Survey, The University of Kansas |
| May 1974-Sept. 2005: | Research Geologist—Iowa Geological Survey |

ACADEMIC TEACHING & SERVICE EXPERIENCE:

- January 2019-December 2019: Research hours faculty supervisor for M.S. student Clay Robertson (GEOL 899), The University of Kansas.
August 2018-December 2018: Research hours faculty supervisor for Ph.D. students Jeffrey Ross and Cesar Augusto Cuapio-Perez (GEOL 891) and M.S. student Clay Robertson (GEOL 899), The University of Kansas.
January 2018-May 2018: Research hours faculty supervisor for Ph.D. student Jeffrey Ross and M.S. student Clay Robertson, The University of Kansas.
August 2017-December 2017: Co-instructor, EVRN 700 *The Anthropocene: Interdisciplinary Perspectives on Environmental Change*, The University of Kansas.
August 2013-December 2013: Participating faculty member in GEOL 791-020 seminar course *Current Research in Sedimentary Geology*, The University of Kansas.

August 2012-December 2012: Co-instructor, EVRN 701 *Climate Change, Ecological Change, Social Change*, NSF IGERT program graduate seminar, The University of Kansas.

August 2012-December 2012: Research hours faculty supervisor for B.S. student Stephan Oborny, The University of Kansas.

August 2012-December 2012: Research hours faculty supervisor for M.S. student Jeffrey Ross, The University of Kansas.

August 2011-December 2012: Research hours faculty supervisor for M.S. student Russell Hunter Harlow, The University of Kansas.

August 2011-December 2011: Participating faculty member in GEOL 791-020 seminar course *Current Research in Sedimentary Geology*, The University of Kansas.

August 2010-May 2011: Research hours faculty supervisor for M.S. student J. Chad Lollar, The University of Kansas.

July-August 2006: Co-instructor, *Advanced Topics in Geology: Mid-Cretaceous Geology of China*, with Luis A. González, The University of Kansas.

July 2006-present: Courtesy Associate Professor, Department of Geology, The University of Kansas.

January-May 2001: Co-Leader, Sedimentary Seminar, with Luis A. González and Scott J. Carpenter; The University of Iowa.

August-December 2000: Co-Leader, Sedimentary Seminar, *Continental Paleoclimate Proxies*, with Luis A. González and Scott J. Carpenter; The University of Iowa.

January-May 2000: Co-Leader, Sedimentary Seminar, with Luis A. González and Scott J. Carpenter; The University of Iowa.

August-December 1999: Co-Leader, Sedimentary Seminar, *The Carbon Cycle*; with Luis A. González and Scott J. Carpenter; The University of Iowa.

January-May 1999: Co-Leader, Sedimentary Seminar, *The Cretaceous World*; with Luis A. González and Tim S. White; The University of Iowa.

August-December 1998: Co-Leader, Sedimentary Seminar, *Stable Isotopes in Environmental and Paleoclimatic Reconstructions*; with Luis A. González and Tim S. White; The University of Iowa.

January-March 1997: Co-Field Trip Leader, *Geology and Tectonics of Puerto Rico: The Northeastern Caribbean Plate Boundary*; with Luis A. González, Ann F. Budd, and Rubén Uribe; the University of Iowa.

December 1995—2007: Adjunct Associate Professor (Sedimentary Petrology) Department of Geology, The University of Iowa

March 1993-present: Member, The University of Iowa Center for Global and Regional Environmental Research.

August 1992--December 1993: Coordinator, weekly guest speaker seminar series, Department of Geology, The University of Iowa

July 1988—December 1995: Adjunct Assistant Professor (Sedimentary Petrology), Department of Geology, The University of Iowa

January 1974-May 1974: Graduate Teaching Assistant, *Man and His Physical Environment* (2 sections); The University of Iowa.

August 1973-December 1973: Graduate Teaching Assistant, *Introduction to Geology* (2 sections); The University of Iowa.

January 1973-May 1973: Graduate Teaching Assistant, *Man and His Physical Environment* (2 sections), the University of Iowa.

MENTORING ACTIVITIES: Kansas Geological Survey & Department of Geology, University of Kansas; Department of Geoscience, The University of Iowa.

Early Career Faculty

Faculty Mentor for Kate Andrzejewski, Assistant Research Professor, Kansas Geological Survey (Ph.D. 2018, Southern Methodist University, Dr. Louis Jacobs, advisor). New Faculty Research Development Award, April 2023-March 2025.

Post-Doctoral Research Associates

Tony Layzell, Kansas Geological Survey (Ph.D. 2015, University of Kansas, R. Mandel, advisor) May 2015-September 2016; NSF and KGS sponsored research on Neogene stratigraphy and geologic mapping activity (2011-2013 NSF IGERT C-Change Fellow; 2014 recipient of

- SEPM student assistance grant; accepted appointment as Assistant Research Professor at the Kansas Geological Survey).
- Brian F. Platt, Kansas Geological Survey (Ph.D. 2012 University of Kansas; S.T. Hasiotis, advisor) August 2012-August 2013; NSF and KGS-sponsored research on Neogene Ogallala Formation and Jurassic Morrison Formation (accepted appointment as Assistant Professor at the University of Mississippi; promoted to Associate Professor in 2020).
- Randy Stotler, Kansas Geological Survey (Ph.D. 2008 University of Waterloo; S.K. Frape, advisor) July 2010-August 2011; NSF-sponsored research on the isotopic hydrogeochemistry of the Neogene Ogallala Formation of western Kansas (accepted appointment as Assistant Professor at the University of Kansas in 2011; promoted to Associate Professor in 2017; currently Associate Professor at the University of Waterloo, Ontario).
- Bradley D. Cramer, Kansas Geological Survey/University of Kansas, (Ph.D. 2009 Ohio State University, M.R. Saltzman, advisor) February 2010-January 2012; NSF Earth Sciences Postdoctoral Fellowship (EAR-PF: *Recalibrating the Silurian System using integrated high-resolution biochemostratigraphy and geochronology: A case study for the Paleozoic Era*). Leader for IGCP Project 591 – *The Early to Middle Paleozoic Revolution*. Co-PI for *The Digital Integrated Stratigraphy Project* funded by the German Research Council (DFG). Postdoctoral Researcher, Kansas Geological Survey, KGS-sponsored research on Pennsylvanian limestones, February 2012-July 2012 (accepted appointment as Assistant Professor at the University of Iowa in 2012, promoted to Associate Professor in 2016). Recipient of NSF CAREER Award in 2015.
- Jon J. Smith, Kansas Geological Survey, (Ph.D. 2007 University of Kansas, S.T. Hasiotis, advisor) September 2007-May 2009; KGS-sponsored research on Holocene and Neogene stratigraphy and paleoclimatology of the High Plains in western Kansas; NSF-sponsored research on neoformation of pedogenic siderite in water-saturated soils (2008 Erasmus Haworth Award to Outstanding Ph.D. student from KU Department of Geology; accepted appointment as Assistant Scientist at Kansas Geological Survey; promoted to Associate Scientist in 2018).
- Adel Haj, Kansas Geological Survey, (Ph.D. 2007 University of Iowa, E.A. Bettis, advisor) Oct. 2006-August 2007; KGS-sponsored research on Holocene and Neogene stratigraphy and paleoclimatology of the High Plains in western Kansas (accepted appointment as Assistant Professor at Central Missouri State University; currently Hydrologist with USGS in Iowa City, Iowa).
- Tim S. White, The University of Iowa, (Ph.D. 1998 Penn State University; M.A. Arthur, advisor) Aug. 1997-July 2000; NSF, ACS-PRF and UI-CGRER-sponsored research on mid-Cretaceous sequence stratigraphy and paleoclimatology (accepted employment as Mendenhall Fellow by U.S. Geological Survey in Anchorage, Alaska; currently Research Associate at Earth & Environmental Systems Institute at Penn State University) Website URL is: http://www.eesi.psu.edu/people/white_tim.php
- Ron A. Metzger, The University of Iowa, (Ph.D. 1991 University of Iowa; G. Klapper, advisor) Aug. 1993-July 1996; ISF, UI-CGRER, and NSF-sponsored research on Devonian stable isotope chemostratigraphy and mid-Cretaceous paleoclimatology (now employed as tenured Full Professor and Past-President of the Faculty Senate at Southwestern Oregon Community College in Coos Bay, Oregon. Website URL is: <http://www.socc.edu/faculty/rmetzger/index.shtml>).

Graduate Student Advisees (served as co-advisor):

- Clay Robertson, M.S., 2019, The University of Kansas, Stable isotope geochemistry and paleohydrology of the Poison Strip Sandstone, Early Cretaceous, eastern Utah. (accepted employment as mining geologist from Georgia-Pacific Gypsum in Blue Rapids, Kansas; currently Ph.D. candidate at Kansas State University).
- Brian Sitek, M.S., 2017, The University of Kansas, Analyzing the Cenozoic depositional history of western Kansas: A new approach using paleosol zircon geochronology (2015 recipient of GSA student research grant; accepted employment by Concho Oil & Energy in Midland, TX).
- Holly Field, M.S., 2017, The University of Kansas, Chronostratigraphic interpretation of Cenozoic paleosols in Nebraska using integrated U-Pb zircon dating and carbon isotope chemostratigraphy.

- Jeffrey B. Ross, M.S., 2016, The University of Kansas, Stable isotope paleohydrology of pedogenic carbonates in the Wayan Formation (Albian), wedge-top depozone in the North American Cretaceous Western Interior Basin (recipient of Joseph M. Patterson, Encana Energy, Devon Energy, and Roy and Freda Lehman scholarships).
- Russell Hunter Harlow, M.S., 2013, The University of Kansas, Depositional and Paleoclimatic Evolution of the Cenozoic High Plains Succession from Core: Haskell Co., Kansas (currently a Ph.D. candidate at Baylor University).
- Mark A. Villarreal, M.S. with Honors, 2012, The University of Kansas, Validation of the Pedogenic Siderite Paleoclimate Proxy (accepted employment by Schumberger Limited in Houston, TX).
- J. Chad Lollar, M.S. with Honors, 2011, The University of Kansas, Probing a Paleoclimate Model-Data Misfit in Arctic Alaska from the Cretaceous Greenhouse World (accepted employment by Laredo Petroleum in Tulsa, OK).
- Marina B. Suarez, Ph.D. with Honors, 2009, The University of Kansas, Perspectives on Global Climate Change in the mid-Cretaceous (Barremian-Albian), (American Geological Institute Graduate Minority Scholar; accepted Blaustein Postdoctoral Fellowship at Johns Hopkins University in 2009; accepted appointment as Assistant Professor at University of Texas San Antonio in 2010; promoted to Associate Professor with tenure in 2017). Recipient of NSF CAREER Award in 2016.
- Aisha H. Al-Suwaidi, M.S. 2007, The University of Kansas, A Ped's Story: Weathering Out Climatic Change During the Mid-Cretaceous (Distinguished Graduate Scholar, United Arab Emirates; received D. Phil from Oxford University UK in 2011; accepted appointment as Assistant Professor at The Petroleum Institute, Abu Dhabi, United Arab Emirates).
- Preston L. Phillips, Ph.D. 2004, The University of Iowa, Paleoclimatic implications of early diagenetic carbonate cements within non-marine "mid"-Cretaceous strata, North American Western Interior Seaway; (Recipient of 1999 GSA student research grant; DOE GAANN Ph.D. Fellow; accepted appointment as Assistant Professor in Geology and Geography Program at University of North Carolina at Pembroke, Pembroke, NC; promoted to Associate Professor with tenure in 2009; currently Director of the Office of Undergraduate Research, UNC-Greensboro; website URL is: <http://ursco.uncg.edu/about/staff.php>)
- David F. Ufnar, Ph.D. 2002, The University of Iowa, Mid-Cretaceous paleosols of the Western Interior Basin: Paleohydrologic and stratigraphic implications (Recipient of a 1999 GSA student research grant; DOE GAANN Ph.D. Fellow; accepted appointment as Assistant Professor in Department of Geology at University of Southern Mississippi, Hattiesburg, MS; website URL is: <http://www.usm.edu/geology/faculty.htm>).
- Leah D. Young, M.S. 2002, The University of Iowa, High resolution chemostratigraphic correlations of mid-Cretaceous marine strata and its implications to the development of accommodation space and paleoceanography, Western Interior Seaway, central United States; (Recipient of a 1999 AAPG student research grant; accepted employment by Barker Lemar & Associates, Des Moines, IA).
- Mary E. Ellis, M.S. 2001, The University of Iowa, Oxygen isotope analyses of Holocene freshwater siderites & calibration of a paleoclimate proxy (Recipient of 1999 Sigma Xi grant in aid of research; accepted employment by American College Testing, Inc., Iowa City, IA; now software developer with Breakthrough to Literacy, Coralville, IA).
- William D. Raatz, M.S. 1992, The University of Iowa, Stratigraphy, depositional environments and petrology of the Elgin Member (Maquoketa Formation) and upper Dubuque Formation, Ordovician, eastern Iowa and southern Minnesota. (Recipient of 1992 best student paper award, North-Central GSA; Ph.D. 1996, University of Wisconsin; accepted employment by ARCO International Oil & Gas Company, Plano, TX, now at New Mexico Bureau of Geology and Mineral Resources).
- Orrin W. Plocher, M.S. 1990, The University of Iowa, Biotic, petrographic, and diagenetic analysis of strata that bound the contact between the Little Cedar and Coralville Formations (Middle Devonian), east-central Iowa. (Recipient of 1992 best student paper award, North-Central GSA; accepted employment by Seneca Environmental Services, Des Moines).
- Roland Scal, M.S. 1990, The University of Iowa, Petrography and provenance of Pennsylvanian sandstones from the Forest City Basin in southwestern Iowa. (Ph.D. 2002, City University of New York; accepted appointment as Assistant Professor at Queensborough Community College, Bayside, NY).

Current Graduate Student Advisees (service on graduate committees):

- Abdullah Wahbi, Ph.D., The University of Kansas: Geomorphological, geochronological and sediment-budget analysis of the McMurray Formation, Alberta: studies of Early Cretaceous surface processes and sedimentary rock evolution.
- G. Clark Sturdevant, M.S. The University of Kansas: Interpretation of high precision U-Pb TIMS ages.

Graduate Student Advisees (service on graduate committees):

- Isaac Allred, Ph.D. 2022, The University of Kansas: Detrital zircon U-Pb fingerprinting of the Appalachian signature: Early Pennsylvanian sediment routing from highlands to deep-sea fans and the persistence of recycled Appalachian-affiliated zircons. (2016 recipient of a Madison and Lila Self Graduate Fellowship; accepted employment with the Indiana Geological and Water Survey at Indiana University, Bloomington, IN).
- Amy Gottberg, M.S. 2022, The University of Kansas: Carbonate carbon isotope chemostratigraphy from the Ruby Ranch Member of the Cedar Mountain Formation in the western San Rafael Swell.
- Jacquelin D. Lee, M.S. 2021, The University of Kansas: A novel approach to date continental sediment deposition and paleoclimate events using volcanogenic zircon in paleosols. (accepted employment at Burns & McDonnell, Kansas City, Missouri).
- Thomas Neal, M.S. 2020, The University of Kansas, Hydrodynamic controls on sedimentology and geomorphology of marine-carbonate ramps: Insights from a Holocene analogue, northern Yucatan shelf, Mexico. (currently a Ph.D. candidate at the University of Kansas).
- Maggie Graham, M.S., 2019, The University of Kansas: Geochemical fingerprinting of Yellowstone Hotspot Track (YHT) eruptions from ash beds in the central United States. (accepted employment as lab manager for Monofrax, LLC., Falconer, New York)
- Caroline Nazworth, M.S., 2019, The University of Kansas: Evaluating models for Cretaceous paleodrainage and sediment routing using detrital zircon U-Pb provenance and geochronology in the Colorado Front Range. (accepted employment as geologist for Devon Energy in Oklahoma City, Oklahoma).
- Keelan Umbarger, M.S., 2018, The University of Kansas: Late Triassic North American Paleodrainage Networks and Sediment Dispersal of the Chinle Formation: A Quantitative Approach Utilizing Detrital Zircons (accepted employment as geologist for EOG Resources, Artesia, New Mexico).
- Bridget Pettit, M.S., 2017, The University of Kansas, Detrital zircon U-Pb geochronology and paleodrainage of the Blackhawk-Castlegate succession, Book Cliffs and Wasatch Plateau, Utah (accepted employment as geologist for ExxonMobil, Houston TX).
- Jason Hallman, M.S., 2016, The University of Kansas, Spatial and temporal patterns of Ogallala Formation deposition revealed by U-Pb zircon geochronology (2015 recipient of GSA student research grant; accepted employment from U.S. Office of Personnel Management, Kansas City MO).
- Julienne Ruth Emry, Ph.D., 2015, The University of Kansas, Reassessing the Biogenesis of Putative Microfossils in the 3.5 Billion Year Old Apex Chert.
- Tony Layzell, Ph.D. 2015, The University of Kansas, Plio-Pleistocene landscape evolution on the High Plains of southwestern Kansas (2011-2013 NSF IGERT C-Change Fellow; 2014 recipient of SEPM student assistance grant; accepted employment as post-doctoral research associate at Kansas Geological Survey in 2015; promoted to Assistant Research Professor in 2017; promoted to Assistant Scientist in 2018).
- Matthew Meyers, M.S. 2014, The University of Kansas, Implications for large-scale sea level change in the Turonian Western Interior Seaway: Evidence from the Codell Sandstone, Colorado (accepted employment by Devon in Oklahoma City, OK).
- Michael Waynick, M.S. 2014, The University of Kansas, Fluvial to shelfal strata of the Late Cretaceous to Paleogene Dorotea Formation and Tres Pasos formations, Magallanes Basin, El Calafate, Argentina (accepted employment by Encana in Denver, CO).

- Nazim Louni, M.S. 2012, The University of Kansas, Depositional Mechanisms in the Upper Cretaceous Panther Tongue of the Start Point Sandstone, east central Utah.
- Julie Retrum, Ph.D. 2010, The University of Kansas, A Paleoclimatic and Paleohydrologic Reconstruction of Pleistocene Fossil Lake, Oregon (awarded an NSF Earth Sciences Postdoctoral Fellowship at the University of Minnesota).
- Celina Suarez, Ph.D. 2010, The University of Kansas, Geochemical Approaches to the Study of Life and Death of Dinosaurs of the Early Cretaceous Cedar Mountain Formation, Utah (American Geological Institute Graduate Minority Scholar; awarded an NSF Earth Sciences Postdoctoral Fellowship at Boise State University in 2011-2012; accepted appointment as Assistant Professor at the University of Arkansas in 2011; promoted to Associate Professor with tenure in 2018).
- Vionette DeChoudens-Sanchez, M.S. 2003, The University of Iowa, Defining the physicochemical factors that control the precipitation of calcium carbonate polymorphs, (DOE GAANN Ph.D. Fellow; recipient of 2002 Samuel Calvin Award to outstanding Ph.D. student; recipient of a 2002 GSA student research grant; Ph.D. recipient at University of Kansas; currently employed by ExxonMobil in Houston, TX).
- Heidi Dowd, M.S. 2003, The University of Iowa, Carbon and oxygen stable isotope patterns in the Pawnee cyclothem, Middle Pennsylvanian (Desmoinesian) of mid-continent North America (Recipient of a 2001 Sigma Xi grant in aid of research; accepted employment by ExxonMobil, Houston, TX).
- Jennifer Obrad, M.S. 2002, The University of Iowa, Stratigraphic variation in oxygen and carbon isotope composition within one glacio-eustatic Pennsylvanian cyclothem in mid-continent North America, (Recipient of a 2000 Sigma Xi grant in aid of research; accepted employment by Illinois State Geological Survey).
- Ruben Uribe, Ph.D. 2002, The University of Iowa, Petrography and stable isotope geochemistry of Upper Cretaceous carbonate concretions and veins in the Cariblanco Formation of south-central Puerto Rico, (Recipient of 1998 Samuel Calvin Award to outstanding Ph.D. student; recipient of GSA student research grant; accepted employment by ExxonMobil, Houston, TX).
- Christian Shorey, Ph.D. 2002, The University of Iowa, High resolution temporal climatic records preserved in speleothem deposits: A case study of the American Midwest and Southeast Asia; (Recipient of 1999 Samuel Calvin Award to outstanding Ph.D. student; recipient of a 1999 GSA student research grant; accepted appointment as Visiting Assistant Professor of Geology and Geological Engineering at The Colorado School of Mines).
- Rhawn Denniston, Ph.D. 2000, The University of Iowa, Extraction of climatic signals from stalagmites in caves from the Monsoon regions of Asia and the North American midwest (Recipient of 1997 Samuel Calvin Award to outstanding Ph.D. student; recipient of a 1999 GSA student research grant; accepted appointment as Assistant Professor of Geology at Cornell College, Mount Vernon, IA).
- Margaret Diffenderffer, M.S. 1997, The University of Iowa, Stratigraphy and depositional history of the mid-Cretaceous Dakota Formation along the Bluffs of the Missouri River, Burt County, Nebraska; (accepted employment by Western Geophysical of Denver, CO).
- Taher Hamid, M.S., 1995, The University of Iowa, Stratigraphy and depositional history of the mid-Cretaceous Dakota Formation along the bluffs of the Missouri River, Thurston County, Nebraska, (Recipient of 1994 AAPG research grant; 1995 A.C. Trowbridge Award to outstanding M.S. student; accepted employment by Exxon Production Research Company in Houston, TX).
- Peter Jaumann, Ph.D. 1995, The University of Iowa, Century to millenium-scale Late Quaternary natural climate variability in the midwestern United States, (Recipient of 1994 Samuel Calvin Award to outstanding Ph.D. student; (accepted employment as a Post-doctoral Research Fellow at National Center for Atmospheric Research, Boulder CO).
- Bin Xiong, Ph.D. 1994, The University of Iowa, Diagenesis of the Stanton Limestone (Missourian, Upper Pennsylvanian) in northern midcontinent: petrography, isotopes, and trace elements. (Recipient of 1992 best student paper award, North-Central GSA; accepted employment as GIS analyst at Alliant Energy in Cedar Rapids, IA).
- Michael H. Gilmer, M.S. 1993, The University of Iowa, Stratigraphy, petrology, depositional environments, and diagenesis of the Hepler Formation (Pleasanton Group, Upper

- Pennsylvanian) in southeastern Kansas. (accepted employment by Warzyn Engineering in Madison, Wisconsin).
- Hector M. Ruiz, M.S. 1993, The University of Iowa, Sedimentology and diagenesis of Isla de Mona, Puerto Rico. (Recipient of AAPG research grant; now employed in Seattle, WA).
- Sonia I. Fernandez, M.S. 1993, The University of Iowa, Stratigraphy, petrology, diagenesis, and depositional environments of the Pennsylvanian (Missourian) Chanute Shale, southeastern Kansas, northeastern Oklahoma. (now employed in Seattle WA).
- Rolf S. Arvidson, M.S. 1990, The University of Iowa, Stratigraphy, carbonate petrology, diagenesis, and trace element cement geochemistry of the Wyandotte Limestone (Upper Pennsylvanian), Miami County, Kansas. (Ph.D, University of Hawaii; post-doc at Texas A & M University; now Research Scientist at Rice University, Houston, TX).
- Lynette S. Seigley, M.S. 1987, The University of Iowa, Origin of cherts in the Burlington Limestone (lower Middle Mississippian) of southeastern Iowa and western Illinois. (accepted employment by Iowa Geological Survey).

Undergraduate Honors Advisee

- Franek Hasiuk, 2002, The University of Iowa, Changes in $\delta^{13}\text{C}$ of Ordovician carbonates from eastern Iowa: B.S. honors thesis, The University of Iowa; work in support of NSF grant EAR-0000741 (recipient of the 2002 Tarr and Vosper awards, and 2003 Weeks and Smith awards; B.S. 2003 University of Iowa; Graduate Fellow at University of Michigan; accepted employment by ExxonMobil in Houston, TX; now Assistant Professor at Iowa State University).

Summer Research Advisees

- Brian Platt, 2011-2012, KGS lab assistant, Department of Geology, University of Kansas; laboratory processing of drillcore samples of Neogene and Mesozoic deposits in Kansas; supported by STATEMAP Program.
- Tony Layzell, 2011, KGS lab assistant, Department of Geography, University of Kansas; laboratory processing of drillcore samples of Neogene deposits in Kansas; supported by STATEMAP Program.
- Mark A. Villarreal, 2010-2011, NSF Graduate Research Assistant, Department of Geology, University of Kansas; stable isotopic analysis of groundwater samples and laboratory synthesis of siderite in microbial culture; supported by NSF EAR-0643334.
- Dr. Celina A. Suarez, 2010, KGS lab assistant, Kansas Geological Survey, University of Kansas; laboratory processing of drillcore samples of Neogene and Mesozoic deposits; supported by STATEMAP Program (currently NSF Earth Sciences Postdoctoral Fellow at Boise State University; accepted tenure-track appointment at University of Arkansas).
- J. Chad Lollar, 2010, NSF lab assistant, Department of Geology, University of Kansas; research assistant for stable isotope and microprobe analysis of Cretaceous siderites and core logging at USGS Core Research Center in Denver, CO; supported by NSF EAR-0643334 (accepted employment at Laredo Petroleum in Tulsa, OK).
- Jeremy Davis, 2004-2005, NSF research assistant, Department of Geoscience, The University of Iowa; research assistant for stable isotopic analyses of Mesozoic terrestrial carbonates, supported by subcontract FY2004-085 from University of Kansas (currently in graduate program at University of Alaska-Fairbanks).
- Andrew Sorensen, summer 2002, NSF-REU intern, Department of Geology, Cornell College, Iowa; stable isotopic analyses of Cretaceous pedogenic-palustrine carbonates, supported by NSF grants EAR-0125285 and EEC-9912191 (accepted 2003 summer internship with Office of the State Archaeologist). Currently Ph.D. Researcher in Faculty of Archaeology at University of Leiden, Netherlands.
- Elizabeth A. Smith, summer 2001, NSF REU intern, Department of Geosciences, University of Massachusetts, field collection and stable isotope analyses of Cretaceous pedogenic-palustrine carbonates, supported by state geological surveys of Iowa, Nebraska, and Utah, and NSF grant EEC-9912191 (B.S. 2003 University of Massachusetts; accepted Graduate Fellowship at University of Michigan).

Kristy Reeves, summer 2001, NSF REU intern, Department of Geology and Astronomy, West Chester University of Pennsylvania, stable isotope analyses of Cretaceous pelagic marine carbonates, supported by funds from the Iowa Geological Survey, research funds held by undergraduate advisor Cindy Fisher, and NSF grant EEC-9912191 (B.S. 2001 West Chester University of Pennsylvania).

Elizabeth A. Smith, summer 2000, NSF REU intern, Department of Geosciences, University of Massachusetts, field collection and stable isotope analyses of Ordovician carbonates as part of work done on NSF grants EAR-0000741 and EEC-9912191 (B.S. 2003 University of Massachusetts; accepted Graduate Fellowship at University of Michigan).

Chris L. Schneider, summer 2000 NSF research associate, Banks Ph.D. Fellow, Department of Geological Sciences, University of Texas at Austin; drillcore sampling and stable isotope analyses of Ordovician carbonates as part of work done on NSF grant EAR-0000741 (B.A. 1999 University of Minnesota; Ph.D. 2003 University of Texas at Austin; accepted appointment as Visiting Assistant Professor in Department of Geology, Cornell College, Mount Vernon, IA).

PROFESSIONAL ORGANIZATIONS:

Geological Society of America	Geochemical Society
American Geophysical Union	Sigma Xi, The Scientific Research Society
SEPM (Society for Sedimentary Geology)	Geological Society of Iowa
Society of Vertebrate Paleontology	Iowa Academy of Science

HONORS, ELECTED OFFICES, AND SYNERGISTIC ACTIVITIES:

2021-24	Guest Editor	Special Issue of <i>Geosciences</i> on <i>Terrestrial Paleoclimatology and Paleohydrology of the Cretaceous Greenhouse World</i> .
2018	Topical Session Organizer	Session 3.7 on <i>Mesozoic-Cenozoic terrestrial environments and climates</i> , 20 th International Sedimentological Congress, Quebec, Canada, August 13-17, 2018
2017	Topical Session Organizer	Session T2.F01 on <i>Cretaceous terrestrial/non-marine studies</i> , 10 th International Symposium on the Cretaceous, Vienna, Austria, August 21-26, 2017.
2017	Member Scientific Committee	10 th International Symposium on the Cretaceous, Vienna, Austria, August 21-26, 2017.
2016	Citationist	Geological Society of America Eugene and Caroline Shoemaker Public Service Award to Rex C. Buchanan, Annual Meeting of the Geological Society of America, Denver, Colorado, September 25-28, 2016.
2016	Topical Session Organizer	Topical Session T201 on <i>Cenozoic Geology of the Great Plains and Western United States: Toward an Integrated Understanding of a Sedimentary, Paleocologic, and Geohydrologic System</i> , Annual Meeting of the Geological Society of America, Denver, Colorado, September 25-28, 2016.
2014	Topical Session Organizer	Topical Session T120 on <i>Proxies for Paleoprecipitation</i> ; Annual Meeting of the Geological Society of America, Vancouver, British Columbia, Oct. 19-22, 2014.
2014	Theme Session Organizer	Theme Session on <i>Cenozoic Stratigraphy of the Great Plains</i> ; North-Central Section meeting, Geological Society of America, Lincoln, Nebraska, April 24-25, 2014.
2013-2014	Elected Sedimentology Councilor	SEPM; The Society for Sedimentary Geology
2013-2014	Sedimentary Geol. Div. Representative	Joint Technical Program Committee, Geological Society of America
2012	Elected Fellow	Geological Society of America
2010	Session Co-convener	Sessions PP11B & PP14A: <i>Cretaceous Arctic Environments: Proxies for Understanding Climate Change from the "Other" Greenhouse Interval</i> ,

		Annual Meeting of the American Geophysical Union, San Francisco, CA. Dec. 13-17.
2009	Panelist for Fall Funding Cycle	U.S. National Science Foundation, EAR – Sedimentary Geology and Paleobiology Program.
2008-present	Associate Editor	Journal of Sedimentary Research; published by Society for Sedimentary Geology.
2007	General Chair, NC Section	Combined Geological Society of America SC-NC Section Meeting, Lawrence, Kansas, April 11-13, 2007.
2005	Session Chair	Paleoclimatology/Paleoceanography I; Annual meeting of the Geological Society of America, Salt Lake City, Utah.
2005	Field Conference Organizer	Field Conference on <i>Facets of the Ordovician Geology of the Upper Mississippi Valley Region</i> ; Great Lakes Section, SEPM (Society for Sedimentary Geology); Decorah, Iowa, September 23-25, 2004.
2005	Theme Session Convener	Theme Session on <i>Developing Approaches to Terrestrial Paleoclimatology</i> ; North-Central Section meeting, Geological Society of America, Minneapolis, Minnesota, May 19-20, 2005.
2004-2005	Elected Vice President	Great Lakes Section, SEPM (Society for Sedimentary Geology).
2003-2004	Elected President	Great Lakes Section, SEPM (Society for Sedimentary Geology).
2003-2006	Elected Member	Board of Directors, Iowa Academy of Science; appointed Board Liaison to Finance Committee.
2002	Session Chair	Stratigraphy Session; Combined Southeastern and North-Central Section Meeting, Geological Society of America, Lexington, Kentucky.
1999-2000	Chair	Iowa Science Foundation Committee, Iowa Academy of Science
1998	Session Co-Chair	Symposium on <i>Sedimentologic and Paleocologic Approaches to Interpreting Sea-Level Changes and Sequence Stratigraphy</i> ; North-Central Section meeting, Geological Society of America, Columbus, Ohio.
1997-2000	Member	Iowa Science Foundation Committee, Iowa Academy of Science
1997	Session Chair	Carbonates Session; Annual meeting of the Geological Society of America, Salt Lake City, Utah.
1997-2005	Elected Member	Executive Committee, Center for Global & Regional Environmental Research, The University of Iowa
1996-1998	Member	National Continuing Education Committee SEPM (Society for Sedimentary Geology).
1996	Convener	Symposium on <i>Mesozoic Paleoenvironments of North America</i> ; North-Central Section meeting, Geological Society of America, Ames, Iowa.
1995	Session Chair	Session on Clastic Sedimentary Petrology; Annual meeting of the Geological Society of America, New Orleans, Louisiana.
1995-1997	Member	National Membership Committee SEPM (Society for Sedimentary Geology).
1994-1996	Chair	Seminar Committee, The University of Iowa Center for Global & Regional Environmental Research.
1994-1995	Chair	Recognition and Awards Committee, Iowa Academy of Science.
1994	Session Chair	Stratigraphy Session, North-Central Section meeting, Geological Society of America, Kalamazoo, Michigan.
1994	Convener	Symposium on <i>Midwest Climate Change and Variability</i> , Iowa Academy of Science, Davenport, Iowa.
1994	Chair	Geology Section, Iowa Academy of Science, Davenport, Iowa.
1993-1997	Member	Recognition and Awards Committee, Iowa Academy of Science.
1993-1994	Elected President	Great Lakes Section SEPM (Society for Sedimentary Geology).
1993-1994	Elected President	The University of Iowa Chapter <i>Sigma Xi</i> (The Scientific Research Society).

1993	Elected Vice Chair	Geology Section, Iowa Academy of Science, Decorah, Iowa.
1993	Elected Vice Pres.	The University of Iowa Chapter <i>Sigma Xi</i> (The Scientific Research Society).
1992-1996	Co-Editor	Geological Society of America Special Paper 306: <i>Paleozoic Sequence Stratigraphy: Views from the North American Craton</i> , 446 p.
1992	Convener	Symposium on <i>Diagenetic Analysis of Transgressive-Regressive Events</i> , North-Central Section meeting, Geological Society of America, Iowa City, Iowa.
1992	Technical Program Chair	North-Central Section meeting, Geological Society of America, Iowa City, Iowa.
1991-1999	Member	Geology Alumni Advisory Board, Department of Geoscience, The University of Iowa.
1990-1994	Co-Editor	Geological Society of America Special Paper 287: <i>Perspectives on the Eastern Margin of the Cretaceous Western Interior Basin</i> , 264 p.
1989	Theme Session Advocate	Theme Session on Cretaceous Record of the Eastern Margin of the Western Interior Seaway, Annual Meeting of the Geological Society of America, St. Louis, Missouri.
1989	SEPM Poster Paper Judge	Annual meeting of the American Association of Petroleum Geologists and Society of Economic Paleontologists and Mineralogists, San Antonio, Texas.
1988	Field Conference Organizer	Field Conference on <i>New Perspectives on the Paleozoic History of the Upper Mississippi Valley: An Examination of the Plum River Fault Zone</i> ; Great Lakes Section SEPM (Society for Sedimentary Geology), Bellevue, Iowa.
1988	Elected V. Pres.	Great Lakes Section SEPM (Society for Sedimentary Geology).
1985	Session Chair	Session on Sedimentary Petrology, North-Central Section meeting, Geological Society of America, DeKalb, Illinois.
1983	Past President	Geological Society of Iowa.
1982-1984	Member	Membership Committee, Iowa Academy of Science.
1982	President	Geological Society of Iowa.
1982	Fellow	Iowa Academy of Science.
1979-1980	Treasurer	Geological Society of Iowa.
1973-1974	Treasurer	<i>SGE</i> Chapter, Dept. of Geology, The University of Iowa.
1972	Scholarship	Field Camp Scholarship, Cedar Valley Rocks and Minerals Society.

SERVICE ACTIVITIES:

2019	KGS Service	Chaired Search Committee for Postdoctoral Researcher in Paleozoic Stratigraphy (position filled by Stephan Oborny).
2019	Service on KU Search Committee	Search Committee for Research Technician in Thin Section Laboratory in the KU Department of Geology (position filled by Pike Holman).
2018	KGS Service	Chair of Search Committee for Energy Research Project Manager (position filled by Jennifer Hollenbach).
2018	KGS Service	Chaired KGS Lab Space Committee to identify lab spaces for early career scientists.
2018	KGS Service	Led KGS staff initiative to prompt renovation and modernization of the KGS Core Lab.
2018	Service on KU Search Committee	Search Committee for Research Technician in Thin Section Laboratory in the KU Department of Geology (position filled by Heidi Hensen).
2018	Service to KU Geology	Prepared posters and moderated displays of KGS drillcores of Cretaceous and Permian strata for the grand opening of the EEEEC, with Susan Stover and Nikki Potter.
2018	Host & coordinator	KGS Stratigraphic Research Seminar on <i>A Decade of Global Analysis of Late Paleozoic Stratigraphy: What do We Know and Where do We Go from Here?</i> (by Erik L. Gulbranson, University of Wisconsin-Milwaukee).

2017	Host & coordinator	KU Geology Colloquium presentation on <i>High-Resolution Event Stratigraphy (HiRES): Unlocking the Paleozoic Record of the Co-Evolution of Life, Climate, and the Earth</i> (by Brad Cramer, University of Iowa).
2017	KGS Service	Interim Chair of KGS Promotion and Review Committee.
2016-2017	KGS Service	Chair of Search Committee for Director of the Kansas Geological Survey (position filled by Dr. Rolfe Mandel).
2015-2017	KU Research Office	Service on KU Research Promotion Committee.
2015-2016	KGS Service	Co-Chair of Search Committee for Director of the Kansas Geological Survey.
2015	Service on KU Search Committee	Search Committee for Laboratory Manager for the Keck Paleoenvironmental & Environmental Stable Isotope Laboratory (position filled by Bruce Barnett).
2015	Host & coordinator	KGS Stratigraphic Research Seminar on <i>An Unfinished Synthesis: Cenozoic Stratigraphy of Nebraska</i> (by R. Matt Joeckel, University of Nebraska-Lincoln).
2014	Host & coordinator	KGS Stratigraphic Research Seminar on <i>Regional and Global Balance Constraints from Stable Isotopes</i> (by Gabriel Bowen, University of Utah).
2014	Host & coordinator	KU Geology Colloquium presentation on <i>Up in Smoke: Organic Carbon Cycling During the Paleocene-Eocene Thermal Maximum</i> (by Gabriel Bowen, University of Utah).
2014-2015	KGS Service	Chair of KGS Promotion and Review Committee.
2013	Service on KU Search Committee	Search Committee for Ritchie Distinguished Professorship in Sedimentary Geology (position filled by Dr. Michael Blum).
2013	Service on KU Search Committee	Search Committee for Geochronologist in the KU Department of Geology (position filled by Dr. Noah McLean).
2013	Service on KGS Search Committee	Search Committee for Field Research Assistant in the KGS Exploration Services Section (position filled by Jeremy Scobee).
2012	Host & coordinator	KGS Stratigraphic Research Seminar on <i>Integrating Ichnology with Sedimentology and Stratigraphy: Practical Applications and Research Directions</i> (by Brian Platt, Kansas Geological Survey).
2012	Host & coordinator	KGS Stratigraphic Research Seminar on <i>The Enigma of Osagean Low-Latitude, Shallow-Water Heterozoan & Biosiliceous Facies</i> (by Evan Franseen, Kansas Geological Survey).
2012	Host & coordinator	KU Geology Colloquium presentation on <i>Obliquity forcing and the amplification of high-latitude climate processes during Oceanic Anoxic Event 2</i> (by Stephen R. Meyers, University of Wisconsin-Madison).
2012	Host & coordinator	KU NSF IGERT C-Change Colloquium presentation on <i>Future climate change: clues from the deep past</i> (by Dana Royer, Wesleyan University).
2012	Host & coordinator	KGS Stratigraphic Research Seminar on <i>High Fidelity: The Deep Time Earth History Revolution</i> (by Brad Cramer, Kansas Geological Survey).
2012-2013	KGS Service	KGS Promotion and Review Committee
2012	Service on KGS Search Committee	Search Committee for KGS Administrative Assistant to the Director (position filled by Julie Bogle).
2010	Host & coordinator	KGS Stratigraphic Research Seminar on <i>Updating the Cretaceous Time Scale: New Results from the Western Interior</i> (by Brad Sageman, Northwestern University).
2010	Host & coordinator	KU Geology Colloquium presentation on <i>Volcanic Trigger for Cretaceous Ocean Anoxic Events?</i> (by Brad Sageman, Northwestern University).
2009	Host & coordinator	KU Geology Colloquium presentation on <i>Global Climate & Atmospheric Carbon Dioxide for the Past 65 Million Years</i> (by Mark Pagani, Yale University).
2009	Service on KGS Search Committee	Search for Neogene Terrestrial Stratigrapher in KGS Stratigraphic Research Section (position filled by Dr. Jon J. Smith).
2009	Service on KGS Search Committee	Search for Geomicrobiology Research Assistant in the Roberts/Fowle laboratories and KGS Geohydrology Section (position filled by Dr. Masato Ueshima).
2009	Service on KGS Search Committee	Search Committee for Water Cycle Scientist in the KGS Geohydrology Section (position filled by Dr. Andrea Brookfield).

2008	Host & coordinator	KGS presentation on <i>Asking Old Rocks New Questions: High-Resolution Integrated Stratigraphy and the Future of Paleozoic Research</i> (by Bradley D. Cramer, Ohio State University).
2008	Host & coordinator	KGS Stratigraphic Research Seminar on <i>Applications of Soil Micromorphology, Pedology, and Geochemistry to Interpreting a Possible Pre-Clovis (13-17 kyr) Archaeological Site at Buttermilk Creek, Bell County, Texas</i> (by Steven G. Driese, Baylor University).
2008	Host & coordinator	KGS Stratigraphic Research Seminar on <i>Dynamics of the Cretaceous Western Interior Sea – Applications of Micropaleontologic and Geochemical Proxies</i> (by Cynthia Fisher, West Chester University, PA).
2008	Host & coordinator	KGS Stratigraphic Research Seminar on <i>Integrated Mapping, Stratigraphy, & Hydrogeologic Investigations for Informed Resource Management and Land Use Planning</i> (by E. Arthur Bettis, University of Iowa).
2008	Service on KGS Search Committee	Co-chaired Search Committee for Geologic Research Sample Technician; extended verbal offer (position filled by Wayne Dickerson).
2007	Host & coordinator	KGS Stratigraphic Research Seminar on <i>Hot and Bothered in the Cretaceous? The meaning of seawater and precipitation $\delta^{18}O$</i> (by Chris Poulsen, University of Michigan).
2007	Host & coordinator	KGS Stratigraphic Research Seminar on <i>Controls on Late Paleozoic Glacial-Interglacial Cycles</i> (by Chris Poulsen, University of Michigan).
2007-2009	KGS Service	Member of the Technical Advisory Group to the Director of KGS.
2007-present	Service on KGS Committee	Stratigraphic Nomenclature Committee
2007	Service on KGS Search Committee	<i>De facto</i> Chair of Search Committee for Postdoctoral Research in Neogene Stratigraphy in the KGS Stratigraphic Research Section (position filled by Dr. Jon J. Smith).
2007	Service on KGS Search Committee	Search for Field Hydrogeologist in the KGS Geohydrology Section (position filled by Ed Reboulet).
2006-present	Statemap Program Coordinator	Kansas Geological Survey
2006	Host & coordinator	KGS Stratigraphic Research Seminar on <i>The Stratigraphic and Geochemical Imprint of the Late Paleozoic Ice Age in Eastern Australia: A Record of Alternating Glacial and Non-Glacial Intervals</i> (by Christopher Fielding and Tracy Frank, University of Nebraska-Lincoln)
2006	Host & coordinator	KGS Stratigraphic Research Seminars on <i>Ecosystem Structure During the Plio-Pleistocene Transition to the Modern Grassland in the Great Plains and A Research Plan for Reconstructing Ecological Interactions in the Cretaceous Interior Seaway</i> (by David Fox, University of Minnesota).
2006	Host & coordinator	KGS Stratigraphic Research Seminars on <i>Isotopes in the Terrestrial Environment: Key to Understanding Ancient Ocean-Atmosphere Interactions and Carbon Isotopes in Modern and Fossil Plants: Reconstructing Climates and Environments</i> (by Darren Gröcke, McMaster University).
2006	Service on KGS Search Committee	Search for Postdoctoral Researcher in Neogene Stratigraphy in the KGS Stratigraphic Research Section (position filled by Dr. Adel Haj).
2006	Host & coordinator	KGS Seminar on <i>Dinosaurs from the Lower Cretaceous Mazongshan area in northwestern China</i> (by Hai-lu You, Chinese Acad. of Geological Sciences)
2004	Host & coordinator	Seminar on <i>Physiology and Phish phood: Applying Isotopes to vertebrate ecology in the Mesozoic</i> (by Reese Barrick, College of Eastern Utah).
2004	Host & coordinator	Seminar on <i>Comparative sedimentology; The role of new technology in carbonate sedimentology</i> (by Antonio Simo, University of Wisconsin-Madison).
2004	Statemap Program Coordinator	Iowa Geological Survey
2004	Host	University of Iowa Department of Geoscience alumni party at Annual AAPG Convention in Dallas, TX.

2004	Host & coordinator	Seminar on <i>Spatial ecology in deep time</i> (by Christy Schneider, Cornell College).
2003	Host & coordinator	Seminar on <i>Sr-isotope record of paleo-weathering and paleo-drainage in an ancient lake basin: Eocene Green River Formation, Wyoming</i> (by Alan Carroll, University of Wisconsin-Madison).
2003	Host & coordinator	Seminar on <i>Alkenones and the evolution of Cenozoic carbon dioxide</i> (by Mark Pagani, Yale University) Co-sponsored by UI Dept. Geoscience and UI Center for Global & Regional Environmental Research.
2003	Host & coordinator	Seminar on <i>Salt, Reefs, and the K-T Boundary Tsunami in La Popa Basin, Mexico</i> (by Katherine Giles, New Mexico State University).
2002	Host & coordinator	Seminar on <i>The epeiric sea environment: Clues and Views from an isotopic perspective</i> (by Chris Holmden, University of Saskatchewan) Co-sponsored by UI Dept. Geoscience and UI Center for Global & Regional Environmental Research.
2002	Host & coordinator	Seminar on <i>Ocean-atmosphere interactions and understanding the global carbon cycle: The importance of terrestrial carbon isotope stratigraphy</i> (by Darren Gröcke, Royal Holloway University, London UK) Co-sponsored by UI Dept. Geoscience and UI Center for Global & Regional Environmental Research.
2002	IGS Service	Strategic Planning Committee for the Iowa Geological Survey Bureau.
2002	Host & coordinator	Seminar on <i>Stable-isotope based paleoaltimetry of the High Himalaya and Tibetan Plateau</i> (by Brian Currie, Miami University, Ohio) Co-sponsored by UI Dept. Geoscience and UI Center for Global & Regional Environmental Research
2002	Host & coordinator	Seminar on <i>Geochemical and isotopic evidence for Quaternary climate change in the tropical Andes, Colombia</i> (by German Mora, Iowa State University).
2001	Host & coordinator	Seminar on <i>Timing of Late Paleozoic glaciation in Gondwana: Was glaciation responsible for the development of northern hemisphere cyclothems?</i> (by John Isbell, University of Wisconsin-Milwaukee).
2001	Host & coordinator	Seminar on <i>Continental ichnology enhances paleoenvironmental, paleoecologic, and paleoclimatic interpretations of terrestrial and fresh water deposits</i> (by Stephen Hasiotis, Indiana State University).
2001	Host & coordinator	Seminar on <i>Evolution and Greenhouse Environment: A case study from the Cretaceous tropics</i> (by Claudia Johnson, Indiana University).
2000	Host & coordinator	Seminar on <i>The linkage between sediment starvation, microbially-mediated nutrient recycling, and basin eutrophication: New model for origin of Devonian black shales, Appalachian Basin</i> (by Brad Sageman, Northwestern University).
2000	Host & coordinator	Seminar on <i>Molecular paleontology: Exploring paleodiet using skeletal lipids</i> (by Emily CoBabe, University of Colorado) Paleontological Society Distinguished Lecture.
2000	Host & coordinator	Seminar on <i>Sequence Stratigraphy of Cretaceous (Albian) Fredericksburg Group, Central and North Texas</i> (by Stacey Atchley, Baylor University).
1999	Host & coordinator	Seminar on <i>Global events in Proterozoic Earth History: The Kalahari Perspective</i> (by Beverly Z. Saylor, Case Western Reserve University) Sponsored by the UI Center for Global & Regional Environmental Research.
1999	Host & coordinator	Seminar on <i>Glacial events during Greenhouse periods: An example from the Ordovician</i> (by Lee Kump, Penn State University) Sponsored by UI Center for Global & Regional Environmental Research.
1999	Host & coordinator	Seminar on <i>Dinosaurs from the Early Cretaceous of central Utah: Key players in understanding terrestrial stratigraphy, tectonics, and paleogeography</i> (by James Kirkland, Utah Geological Survey).
1997	Host & coordinator	Seminars on <i>Continental records of climatic and environmental change over the past 100 years: Insight from high-resolution lacustrine archives and The biogeochemical record of ecosystem dynamics associated with climatic and oceanographic fluctuations from Younger Dryas cold period to</i>

		<i>present in the anaerobic Cariaco Basin, offshore Venezuela</i> (by David J. Hollander, Northwestern University) Sponsored by UI Center for Global & Regional Environmental Research.
1996	Host & coordinator	Seminar on <i>Iceland Fires Up and Greenland Cools Off: Results from ODP Leg 152</i> (by Mary Anne Holmes, University of Nebraska-Lincoln) Co-sponsored by UI Center for Global & Regional Environmental Research and UI Women in Science & Engineering Program.
1996	Host & coordinator	Seminar on <i>The great comet crash of '94</i> (by Eugene M. and Caroline S. Shoemaker, Lowell Observatory) Sponsored by UI Center for Global & Regional Environmental Research.
1995	Host & coordinator	Seminar on <i>Neogene climate change: From mountains to Milankovitch</i> (by Maureen E. Raymo, Massachusetts Institute of Technology).
1995	Host & coordinator	Workshop on <i>Climate model applications in paleoenvironmental analysis</i> and seminar on <i>Water and Global Change</i> (by Eric J. Barron, Penn State University) Co-sponsored by UI Dept. Geoscience and UI Center for Global & Regional Environmental Research.
1993	Host & coordinator	Seminar on <i>The early Cenozoic transition from a Greenhouse to an Icehouse world: A deep sea perspective</i> (by James C. Zachos, University of California Santa Cruz) Co-sponsored by UI Center for Global & Regional Environmental Research and JOI/USSAC Distinguished Lecturer Series.
1993	Host & coordinator	Seminar on <i>The genesis of sedimentary manganese deposits</i> (by Barrie Bolton, BHP Minerals).
1991	Host & coordinator	Seminar on <i>Unraveling the remarkable geologic record of Global Change during the mid-Cretaceous</i> (by Lisa M. Pratt, Indiana University).

PEER REVIEWER:

JOURNALS:

American Association of Petroleum Geologists Bulletin; Basin Research; Canadian Journal of Earth Sciences; Cretaceous Research; Earth & Environmental Science Transactions of the Royal Society of Edinburgh; Earth and Planetary Science Letters; Earth-Science Reviews; Geobiology; Geochimica et Cosmochimica Acta; Geological Society of America Scientific Books; Geological Society of America Bulletin; Geology Magazine (GSA); Geoscience Wisconsin; Geosciences (MDPI); Geosphere (GSA); Hydrological Processes; Journal of Asian Earth Sciences; Journal of Geology; Journal of the Geological Society of London; Journal of the Iowa Academy of Science; Journal of Paleontology; Journal of Sedimentary Research; Journal of Structural Geology; Nature Geoscience; New York State Museum Bulletin; Palaios; Palaeogeography, Palaeoclimatology, Palaeoecology; PeerJ; Proceedings of the Royal Society Part B—Biological Sciences; Rapid Communications in Mass Spectrometry; Sedimentology; SEPM Special Publications; The Depositional Record.

GRANTING AGENCIES:

National Science Foundation (Sedimentary Geology and Paleobiology Program; Office of Polar Programs; Ecology Program; Global Change Program); Natural Sciences and Engineering Research Council of Canada; American Chemical Society--Petroleum Research Fund; ETH Zurich Research Commission; U.S. Civilian Research & Development Foundation; Iowa Science Foundation; UI Center for Global & Regional Environmental Research.

EXTERNAL INVITED LECTURES:

Invited Panelist for Discussion of Global Warming—Historical and Modern: 2019 AAPG Mid-Continent Section Meeting, Doubletree Hilton Hotel, Wichita Kansas, October 6, 2019.
Geologic Mapping Program at the Kansas Geological Survey: Utility Division, Kansas Contractors Association Annual Meeting, Intercontinental Hotel, Kansas City, Missouri, January 25, 2018.
The Emerging Terrestrial Record of Mid-Cretaceous Global Change: Department of Earth and Environmental Sciences, University of Iowa, Iowa City, Iowa, October 21, 2016.

What's Up with the Pedogenic Siderite Paleoclimate Proxy?: Validation by Modern Process Studies and New Applications to the Cretaceous Arctic: Department of Geoscience, University of Iowa, Iowa City, Iowa, April 12, 2013.

What's Up with the Pedogenic Siderite Paleoclimate Proxy?: Validation by Modern Process Studies and New Applications to the Cretaceous Arctic: Department of Geological Sciences, University of Missouri, Columbia, Missouri, October 26, 2012.

The STATEMAP Geologic Mapping Program in Kansas: Kansas GIS Policy Board Meeting, Topeka, Kansas, March 9, 2012.

The Current Status of the Sphaerosiderite Paleoclimate Proxy: SEPM-NSF Workshop on *Paleosols and Soil Surface Analog Systems*, Petrified Forest National Park, Holbrook, Arizona, September 23, 2010.

Stable Isotope Proxies for Arctic Paleoprecipitation in the Cretaceous Greenhouse World Revisited: New Data from the Colville Basin: Workshop on Reconstructing Cretaceous Arctic and Beringian Ecosystems and Environments as Proxies for Understanding Recent High-Latitude Climate Change, International Arctic Research Center, University of Alaska Fairbanks, May 4, 2010.

Kansas Participation in the National Cooperative Geologic Mapping Program: Kansas Department of Health & Environment, Topeka, Kansas, Feb. 22, 2010.

Stratigraphic Research Program on Sediments of the High Plains Aquifer in Kansas: Brownbag Professional Development Lecture, Kansas Water Office, Topeka, Kansas, Jul. 22, 2008.

Geologic Studies in the High Plains of Western Kansas: School Assembly at Rock Hills Middle School, Burr Oak, Kansas, Feb. 20, 2008.

Metrics of subtropical evaporation rates encoded in Mesozoic terrestrial carbonates: Some examples: Colorado Plateau Coring Project Workshop, co-spons. by Drilling Observation & Sampling of the Earth's Continental Crust, Inc. (DOSECC), & National Science Foundation, St. George, Utah, Nov. 14, 2007.

Isotopic analysis of carbonates in paleosols: Kansas Association of Professional Soil Classifiers, Kansas Geological Survey, University of Kansas, Lawrence, KS, Apr. 27, 2006.

Exploring the role of the hydrologic cycle in climate model simulations of past greenhouse worlds: Department of Geology, University of Kansas, Lawrence, KS, Feb. 16, 2006.

Exploring the role of the hydrologic cycle in climate model simulations of past greenhouse worlds: Department of Geology, University of Nebraska, Lincoln, NE, Jan. 27, 2006.

Tracking the footprints of ancient groundwaters, Dinosaurian track beds as paleorecords of the critical zone: Department of Geology, The University of Kansas, Lawrence, KS, Nov. 10, 2005.

Tracking the footprints of ancient groundwaters, Dinosaurian track beds as paleorecords of the critical zone: Indiana University-Purdue University Fort Wayne, Fort Wayne, IN, Mar. 15, 2005.

What will global warming mean for Iowa?: Cornell College, Mount Vernon, IA, Feb. 15, 2005.

Facets of the Ordovician geology of the Upper Mississippi Valley region: Kansas Geological Survey, Lawrence, KS, Nov. 30, 2004.

What will global warming mean for Iowa?: Geological Society of Iowa, Keosauqua, IA, Oct. 30, 2004.

Terrestrial carbonate records of the carbon isotope excursions associated with mid-Cretaceous (Aptian-Albian) oceanic anoxic events: Institute for Vertebrate Paleontology and Paleoanthropology, Academia Sinica, Beijing, China, Sept. 19, 2004.

What will global warming mean for Iowa?: Iowa Renewable Energy Association, I-RENEW Energy Expo, Hiawatha, IA, Sept. 11, 2004.

Quantifying the evaporation deficit in the mid-Cretaceous subtropics: Insights from the stable isotopic geochemistry of terrestrial carbonates: SEPM Carbonate Research Group, Dallas, TX, April 19, 2004.

Continental isotopic records of global change in the Cretaceous greenhouse world: Department of Geological Sciences, University of Colorado, Boulder, CO, Feb. 18, 2004.

Continental isotopic records of global change in the Cretaceous greenhouse world: Department of Geology, University of Akron, Akron, OH, Sept. 26, 2003.

Continental isotopic records of global change in the Cretaceous greenhouse world: Department of Geology, University of Texas-Arlington, Arlington, TX, Sept. 11, 2003.

Continental isotopic records of global change in the Cretaceous greenhouse world: Department of Geological Sciences, New Mexico State University, Las Cruces, NM, Mar. 5, 2003.

Continental isotopic records of global change in the Cretaceous greenhouse world: Department of Marine, Earth, and Atmospheric Sciences, North Carolina State University, Raleigh, NC, Jan. 17, 2003.

Terrestrial-marine chemostratigraphic correlations of Early Cretaceous palustrine carbonates: SEPM Carbonate Research Group, Denver, CO, Oct. 29, 2002.

Continental isotopic records of global change in the Cretaceous greenhouse world: Department of Geological Sciences, Indiana University, Bloomington, IN, Sept. 16, 2002.

Continental isotopic records of global change in the Cretaceous greenhouse world: Department of Geological and Atmospheric Sciences, Iowa State University, Ames, IA, Sept. 6, 2002.

Continental isotopic records of global change in the Cretaceous greenhouse world: Department of Geological and Environmental Sciences, Northern Illinois University, DeKalb, IL, Feb. 11, 2002.

Global Warming: Some Lessons from Earth History: Annual Meeting of the Southeast Iowa Astronomy Club, Burlington, IA, Jan. 13, 2001.

Assessment of the Cretaceous Greenhouse World: Insights from the Continental Isotopic Record: Department of Geology, Baylor University, Waco, TX, Oct. 28, 2000.

Progress Report on Stable Isotopic Investigations of Cretaceous and Ordovician Paleoenvironments in North America: Midcontinent Miniconference: Innovations in Stratigraphic, Biogeochemical, and Geomicrobiological Studies, Department of Geological Sciences, Northwestern University, Evanston, IL., July 15, 2000.

Assessment of the Cretaceous Greenhouse World: Insights from the Continental Isotopic Record; Department of Geological Sciences, University of Missouri at Columbia, MO, Mar. 17, 2000.

Sphaerosiderites: A Paleoclimate Proxy for Humid Continental Paleoenvironments; Department of Geological Sciences, University of Missouri at Columbia, MO, Mar. 17, 2000.

Global Warming: Some Lessons from Earth History; Air Quality Bureau, Iowa Department of Natural Resources, Urbandale, IA, Feb. 15, 2000.

Global Warming: Some Lessons from Earth History; Energy Bureau, Iowa Department of Natural Resources, Wallace State Office Building, Des Moines, IA, Dec. 7, 1999.

Cretaceous Geology of Iowa: Deposition of a Regional Aquifer and a Glimpse into the Greenhouse World; Annual Meeting, Geological Society of Iowa, Springbrook Conservation Education Center, Springbrook State Park, IA, Oct. 3, 1998.

Cretaceous Geology of Iowa: A Window into the Greenhouse World; Cedar Valley Rocks and Minerals Society, Cedar Rapids, IA, Sept. 16, 1998.

Climate Change in Mesozoic North America; Dept. of Geological Sciences, Northwestern University, Evanston, IL, May 16, 1997.

Iowa's Participation in the National Geologic Mapping Program; Dept. of Earth Science, University of Northern Iowa, Cedar Falls, IA, Nov. 28, 1994.

Paleoclimatic Reconstructions of Greenhouse Warming in mid-Cretaceous North America; Dept. of Geology, University of Nebraska, Lincoln, NE, Nov. 11, 1994.

Perspectives on Global Greenhouse Maxima during the last 100 Million Years of Earth History; Dept. of Geological & Atmospheric Sciences, Iowa State University, Ames, IA, Nov. 18, 1993.

Stable Isotopic Geochemistry of Some Phanerozoic Marine Carbonates in Iowa; Dept. of Geological and Atmospheric Sciences, Iowa State University, Ames, IA, Feb. 28, 1991.

INTERNAL INVITED LECTURES:

Some New Findings of the Paleoclimatology of the Cretaceous Greenhouse World: Department of Geology Colloquium, University of Kansas, Lawrence, KS, December 2, 2021.

Guest lecture on the sphaerosiderite paleoclimate proxy: GEOL 729, Department of Geology, University of Kansas, Lawrence, KS, March 7, 2019.

Reflections on Cretaceous Terrestrial Paleoclimatology from the September 2015 IGCP 609 Workshop in Nanjing, China: Department of Geology, University of Kansas, Lawrence, KS, September 24, 2015.

Building a 3D model of sediments in the High Plains aquifer: It's about time: Red Hot Research, The Commons, Spooner Hall, University of Kansas, August 28, 2015.

Preliminary Findings from the HPIA core at the Haskell County Index Well Site, southwest Kansas: Kansas Geological Survey, Lawrence, KS, June 18, 2013.

Paleoclimatologic Research at the Kansas Geological Survey: Haskell Indian Nations University Environmental Research Studies Institute, Kansas Geological Survey, Lawrence, KS, July 12, 2011.

Development of the STATEMAP Program in Kansas: Kansas Geological Survey Advisory Council, Lawrence, KS, December 2, 2010.

Glimpses of the Greenhouse World Through a Glass Darkly: Deep-Time Paleoclimatology & the Hindcasting-Forecasting Dilemma: University of Kansas NSF IGERT Program, C-Change Colloquium Series, The Commons, Spooner Hall, University of Kansas, November 15, 2010.

Glimpses of the Greenhouse World Through a Glass Darkly: Deep-Time Paleoclimatology & the Hindcasting-Forecasting Dilemma: University of Kansas NSF IGERT Program, C-Change Colloquium Series, Kansas Union, University of Kansas, April 20, 2009.

Kansas Participation in the Statemap Program: Kansas Geological Survey Advisory Council, Lawrence, KS, November 13, 2008.

Investigation of Soil-Formed Siderite and its Contribution to Global Change Research: Kansas Geological Survey Advisory Council, Lawrence, KS, May 17, 2007.

Developing Approaches for Understanding the Hydrostratigraphic Architecture of the Dakota Formation in Kansas: Kansas Geological Survey Advisory Council, Lawrence, KS, May 17, 2007.

Tracking the Footprints of Ancient Groundwaters: Dinosaurian Track Beds as Paleorecords of the Critical Zone: Department of Geological Science, University of Iowa, Iowa City, IA, Feb. 4, 2005.

Continental Isotopic Records of Global Change in the Cretaceous Greenhouse World: Department of Geological Science, University of Iowa, Iowa City, IA, Feb. 27, 2004.

A Gaze into the Greenhouse: Why I Care about Cretaceous Paleoclimatology: Advisory Board Meeting, University of Iowa Center for Global & Regional Environmental Research, Iowa City, IA, Nov. 13, 2003.

Water, Global Change, and a 21st Century Environmental Agenda for Iowa: Iowa Geological Survey, Iowa City, IA, Oct. 21, 2003.

Explorations of Iowa's Rock Record of the Late Ordovician Greenhouse-Icehouse Transition: Department of Geoscience and The Center for Global & Regional Environmental Research, University of Iowa, Iowa City, IA, Dec. 14, 2001.

Continental Paleoclimatology of the Ancient Greenhouse World: What Does it Say About our Climate Future?: Environmental Sciences Seminar, University of Iowa, Iowa City, IA, Sept. 6, 2001.

Sphaerosiderite Paleoclimatology at The University of Iowa, and the Case for an Intensified Hydrologic Cycle during Greenhouse Warming: Department of Geoscience and The Center for Global & Regional Environmental Research, University of Iowa, Iowa City, IA, Dec. 8, 2000.

Global Warming: Some Lessons from Earth History: Guest lecture for class in Atmospheric Chemistry, Department of Chemical Engineering, University of Iowa, Iowa City, IA, Oct. 2, 2000.

Global Warming: Some Lessons from Earth History, Seminar for NSF Research Experience in Undergraduate Education Student Interns, Center for Global & Regional Environmental Research, University of Iowa, Iowa City, IA; July 5, 2000.

Global Warming: Some Lessons from Earth History; Tri-State Geological Field Conference, University of Iowa, Iowa City, IA, Oct. 16, 1999.

Assessment of the Cretaceous Greenhouse World: Insights from the Continental Isotopic Record; Department of Geology and Center for Global & Regional Environmental Research, University of Iowa, Iowa City, IA, Feb. 19, 1999.

Climate Change in Mesozoic North America; Dept. of Geology, University of Iowa, Iowa City, IA, Jan. 31, 1997.

New Insights from Paleoenvironmental Studies of the Cretaceous Dakota Formation; Dept. of Geology, University of Iowa, Iowa City, IA, March 8, 1996.

Paleoclimatic Reconstructions of Greenhouse Warming in mid-Cretaceous North America; Dept. of Geology and Center for Global & Regional Environmental Research, University of Iowa, Iowa City, IA, Dec. 9, 1994.

Musings on the Chemostratigraphy of Ordovician Epeiric Seas; Dept. of Geology, University of Iowa, Iowa City, IA, Nov. 22, 1991.

Implications of Fracture-filling Calcite in the Plum River Fault Zone, Dept. of Geology, University of Iowa, Iowa City, IA, Sept. 6, 1988.

CONTRACTS AND GRANTS:

2021-2022: Co-principal investigator, Geologic Mapping in Kansas for FY21. PI is J.J. Smith., Co-PIs: Layzell, A., Hasiuk, F., Ludvigson, G.A., Mandel, R.D., Ishman, S., Oborny, S., Dunham, J.W., Franseen, E., Ortega-Ariza, D., Bode-Omoleye, I., and Mohammadi, S., United States Geological Survey STATEMAP Program Contract No. G21AC10803-00. Federal and state match totaling to \$1,035,902.

2020-2021: Co-principle investigator, Geologic Mapping in Kansas for FY20. United States Geological Survey, STATEMAP Program Contract No. G20AC00241. PI is J.J. Smith. Other co-PIs are A. Layzell, R.D. Mandel, K.D. Newell, and J.W. Dunham. Federal and state match totaling to \$855,930.

2019-2020: Principle investigator, Expedition to Dinosaur National Monument for geochronologic research on the Cretaceous Cedar Mountain Formation. University of Nebraska, \$2,235.

2019-2020: Co-principle investigator, Geologic Mapping in Kansas for FY19. United States Geological Survey, STATEMAP Program Contract No. G19AC00231. PI is J.J. Smith. Other co-PIs are A. Layzell, R.D. Mandel, K.D. Newell, and J.W. Dunham. Federal and state match totaling to \$292,588.

2018-2019: Principle investigator, Renovation of the Kansas Geological Survey Core Lab. Co-PIs are N. Potter, T. Layzell, and J. Smith. Kansas Geological Survey, \$32,115.

2018-2019: Principle investigator, Geologic Mapping in Kansas for FY18. United States Geological Survey, STATEMAP Program Contract No. G18AC00197. Co-PIs are R.D. Mandel, K.D. Newell, A. Layzell, J.J. Smith, T. Bidgoli, and J.W. Dunham. Federal and state match totaling to \$295,861.

2017-2018: Principle investigator, Merriam Research Award, Kansas Geological Survey, KU Endowment funds, \$3,482.

2017-2018: Principle investigator, Geologic Mapping in Kansas for FY17. United States Geological Survey, STATEMAP Program Contract No. G17AC00261. Co-PIs are R.D. Mandel, K.D. Newell, A. Layzell, J.J. Smith, W.C. Johnson, T. Bidgoli, and J.W. Dunham. Federal and state match totaling to \$311,046.

2016-2017: Principle investigator, Merriam Research Award, Kansas Geological Survey, KU Endowment funds, \$3,687.

2016-2017: Principle investigator, Geologic Mapping in Kansas for FY16. United States Geological Survey, STATEMAP Program Contract No. G16AC00195. Co-PIs are R.D. Mandel, K.D. Newell, R.S. Sawin, W.C. Johnson, J.W. Dunham, and J.J. Smith. Federal and state match totaling to \$306,831.

2015-2016: Principle investigator, International Travel Fund, Kansas University Center for Research, \$1,000.

2015-2016: Principal investigator, Merriam Research Award, Kansas Geological Survey, KU Endowment funds, \$2,000.

2015-2016: Principal investigator, Geologic Mapping in Kansas for FY15. United States Geological Survey, STATEMAP Program Contract No. G15AC00225. Co-PIs are R.D. Mandel, K.D. Newell, R.S. Sawin, W.C. Johnson, J.W. Dunham, and J.J. Smith. Federal and state match totaling to \$241,064.

2014-2015: Principal investigator, Geologic Mapping in Kansas for FY14. United States Geological Survey, STATEMAP Program Contract No. G14AC00226. Co-PIs are R.D. Mandel, K.D. Newell, R.S. Sawin, W.C. Johnson, J.W. Dunham, J.J. Smith, and R. Stotler. Federal and state match totaling to \$308,293.

2013-2014: Principal investigator, Geologic Mapping in Kansas for FY13. United States Geological Survey, STATEMAP Program Contract No. G13AC00168. Co-PIs are R.D. Mandel, K.D. Newell, R.S. Sawin, W.C. Johnson, J.W. Dunham, J.J. Smith, and R. Stotler. Federal and state match totaling to \$223,129.

2012-2013: Principal investigator, Geologic Mapping in Kansas for FY12. United States Geological Survey, STATEMAP Program Contract No. G12AC20279. Co-PIs are R.D. Mandel, K.D. Newell, R.S. Sawin, W.C. Johnson, J.W. Dunham, J.J. Smith, and R. Stotler. Federal and state match totaling to \$334,100.

2012-2013: Co-principle investigator, Investigation of Recharge to the High Plains Aquifer, Northwestern Kansas. United States Geological Survey, KS Water Resources Institute 104(b) program. PI is Randy Stotler. Other co-PIs are James Butler, Dan Hirmas, and Jon Smith. Federal and state match totaling to \$30,000.

2011-2012: Principal investigator, Geologic Mapping in Kansas for FY11. United States Geological Survey, STATEMAP Program Contract No. G11AC20263. Co-PIs are D.O. Whittemore, R.D. Mandel, K.D. Newell, R.S. Sawin, W.C. Johnson, J.W. Dunham, and J.J. Smith. Federal and state match totaling to \$441,394.

2010-2011: Co-principle investigator, Ogallala-High Plains Aquifer Special Study Phase III: Lithologic Calibration of Practical Saturated Thickness in the Ogallala-High Plains Aquifer. U.S. Bureau of Reclamation; cooperative project with the Kansas Water Office and Southwest Kansas Groundwater Management District. PI is Susan Stover. Other co-PI is Jon J. Smith. Federal and state match totaling to \$100,000.

2010-2015: Co-principal investigator, Collaborative Research: Investigating lithologic and stratigraphic controls on hydrogeology in Neogene strata of the Central High Plains Aquifer. National Science Foundation Grant No. EAR-1023285. PI is Jon J. Smith. Other co-PI is John Doveton, \$381,000. Total project award is \$647,995.

2010-2011: Principal investigator, Geologic Mapping in Kansas for FY10. United States Geological Survey, STATEMAP Program Contract No. G10AC00364. Co-PIs are D.O. Whittemore, R.D. Mandel, K.D. Newell, R.S. Sawin, W.C. Johnson, J.W. Dunham, and J.J. Smith. Federal and state match totaling to \$456,155.

2010-2011: Principal investigator, Merriam Research Award, Kansas Geological Survey, KU Endowment funds, \$1,500.

2009-2010: Principal investigator, Geologic Mapping in Kansas for FY09. United States Geological Survey, STATEMAP Program Contract No. G09AC00176. Co-PIs are P.A. Macfarlane, R.D. Mandel, K.D. Newell, R.S. Sawin, W.C. Johnson, J.W. Dunham, and J.J. Smith. Federal and state match totaling to \$398,863.

- 2009-2010: Co-principal investigator, Petrophysics, stable isotope chemostratigraphy, and U/Pb age of Jurassic strata from the Amoco Rebecca Bounds #1 well: Kansas Geological Survey Small Grants for Research Program. PI is John Doveton, \$16,413.
- 2008-2009: Principal investigator, Geologic Mapping in Kansas for FY08. United States Geological Survey, STATEMAP Program Contract No. 08-HQAG-0114. Co-PIs are P.A. Macfarlane, R.D. Mandel, R.D. Miller, K.D. Newell, R.S. Sawin, W.C. Johnson, and J.W. Dunham. Federal and state match totaling to \$413,207.
- 2008-2009: Principal investigator, Carbon Isotope Chemostratigraphy of Mid-Cretaceous Strata in Kansas. Kansas Geological Survey Small Grants for Research Program. Other co-PIs are P.A. Macfarlane and Rolfe Mandel, \$13,700.
- 2007-2011: Principal investigator, Collaborative Research: Actualistic Calibration of the Sphaerosiderite Paleoclimate Proxy. National Science Foundation Grant No. EAR-0643334. Co-PIs are LA. González, J.A. Roberts, and D.A. Fowle, \$254,680. Total project award is \$373,647.
- 2007-2008: Principal investigator, Feasibility of Surface Geophysics to Delineate Ash Deposits in Jewell and Smith Counties, Kansas. Kansas Minerals, Inc., Contract No. IND46500. Co-PIs are J. Xia and J.M. Anderson, \$20,175.
- 2007-2008: Principal investigator, Geologic Mapping in Kansas for FFY2007. United States Geological Survey, STATEMAP Program Contract No. 07-HQAG-0071. Co-PIs are P.A. Macfarlane, R.D. Mandel, J.R. McCauley, K.D. Newell, R.S. Sawin, and W.C. Johnson. Federal and state match totaling to \$307,686.
- 2007-2008: Principal investigator, Capturing the Record of Neogene Climate Change from Strata of the High Plains Aquifer in Kansas. Kansas Geological Survey Small Grants for Research Program. Other co-PIs are Rolfe Mandel and Allen Macfarlane, \$12,254.
- 2007-2008: Principal investigator, Continuing a Stratigraphic Research Seminar (SRS) Program at the Kansas Geological Survey. Kansas Geological Survey Small Grants for Research Program. Other co-PIs are Evan Franseen, Rolfe Mandel, and Jim Butler, \$4,000.
- 2006-2007: Co-principal investigator, Supplemental award to “Quantifying Changes in Hydrologic Cycle Fluxes over the Americas During the Mid-Cretaceous (Albian) Greenhouse World”. National Science Foundation Grant No. EAR-0636207. Principal investigator is Luis A. González; \$29,999.
- 2006-2007: Principal investigator, Inauguration of a Stratigraphic Research Seminar at the Kansas Geological Survey. Other co-PIs are E. Franseen and R. Mandel. Kansas Geological Survey Small Grants for Research Program, \$6,000.
- 2005-2007: Co-principal investigator, Geologic Mapping for BMP Targets. U.S. Environmental Protection Agency. Principal investigator is R.D. Libra. Other co-PI is R.R. Anderson. Federal and state match totalling to \$319,340.
- 2005-2006: Principal investigator, Geologic Mapping in Iowa for FFY05. United States Geological Survey, STATEMAP Program. Other co-PIs are Deborah Quade, Stephanie Surine, Ray Anderson, and Brian Witzke. Federal and state match totaling to \$374,334.
- 2004-2005: Co-principal investigator, Capturing Iowa’s Industrial Age Record of Global Change. The University of Iowa Center for Global and Regional Environmental Research. Seed Grant Program. Principle investigator is J.A. Dorale. Other co-PI is R.G. Baker, \$20,000.
- 2004-2006: Principal investigator, Paleoclimatologic Field Studies in Colorado, New Mexico, Oklahoma, and Texas in the Conduct of NSF Grant EAR-0125285. Subcontract No. FY2004-085, The University of Kansas. Co-PIs are B.J. Witzke and R.L. Brenner, \$12,316.84.
- 2004-2005: Principal investigator, Geologic mapping of the Upper Iowa Watershed: Phase 1: Decorah 7.5’ Quadrangle. United States Geological Survey, STATEMAP Program, Other co-PIs are Raymond R. Anderson, Brian J. Witzke, Bill J. Bunker, and Stephanie Tassier-Surine. Federal and state match totalling to \$70,278.
- 2003-2004: Co-principal investigator, Digital Bedrock Map of Iowa: Phase 7: Southeast Iowa. United State Geological Survey, STATEMAP Program, Principle investigator is Raymond R. Anderson, and other co-PIs are Brian J. Witzke, Bill J. Bunker, and Robert A. McKay. Federal and state match totaling to \$130,200.
- 2002-2005: Co-principal investigator, Quantifying changes in hydrologic cycle fluxes over the Americas during the mid-Cretaceous (Albian) Greenhouse World. National Science Foundation Grant No. EAR-0125285. Principle investigator is Luis A. González, and other co-PIs are Robert L. Brenner and Brian J. Witzke, \$258,227.
- 2002-2003: Co-principal investigator, Digital Bedrock Map of Iowa: Phase 5 – Southwest Iowa. United States Geological Survey, STATEMAP Program Contract No. 02-HQAG-0034. Principle investigator was Raymond R. Anderson, and other co-PIs are Brian J. Witzke and Bill J. Bunker. Federal and state match totaling to \$142,900.

- 2002-2003: Co-principal investigator, Digital Bedrock Map of Iowa: Phase 6 – Central Iowa. United States Geological Survey, STATEMAP Program Contract No. 02-HQAG-0034. Principle investigator was Raymond R. Anderson, and other co-PIs are Brian J. Witzke and Bill J. Bunker. Federal and state match totaling to \$42,600.
- 2001-2002: Co-principal investigator, Digital Bedrock Map of Iowa: Phase 4 – South-Central Iowa. United States Geological Survey, STATEMAP Program Contract No. 01-HQAG-0091. Principle investigator was Raymond R. Anderson, and other co-PIs were Brian J. Witzke and Bill J. Bunker. Federal and state match totaling to \$137,500.
- 2000-2002: Principal investigator, SGER: Stratigraphic Architecture of a Middle Ordovician Carbon Isotope Excursion. National Science Foundation Grant No. EAR-0000741. Co-PIs were Brian J. Witzke, Luis A. González, and Scott J. Carpenter, \$30,469.
- 2000-2001: Co-principal investigator, Digital Bedrock Map of Iowa: Phase 3 – North-Central Iowa. United States Geological Survey, STATEMAP Program Contract No 00-HQAG-0075. Principle investigator was Raymond R. Anderson, and other co-PIs were Brian J. Witzke, Bill J. Bunker, and James D. Giglierno. Federal and state match totaling to \$56,201.
- 1999-2000: Co-principal investigator, Holocene Sphaerosiderites: Calibrating an Innovative Paleoclimate Proxy. The University of Iowa Center for Global and Regional Environmental Research. Seed Grant Program. Principle investigator was Luis A. González, \$17,055.
- 1998-1999: Co-principal investigator, Decoding the Temperature Signal in the Cretaceous “Greenhouse World.” The University of Iowa Carver Initiative Seed Grant Program for Scientific and Engineering Research. Principal investigator was Luis A. González, \$15,000.
- 1997-1999: Co-principal investigator, Assessment of Controls on Accommodation Space in the Cretaceous Western Interior Seaway Applied to High Resolution Chemostratigraphic Reconstructions of Climate. The Petroleum Research Fund of the American Chemical Society, PRF# 32572-AC8. Principal investigator was R.L. Brenner of The University of Iowa. Other co-PIs were B.J. Witzke and T.S. White of The University of Iowa, \$49,100.
- 1997-98: Co-principal investigator, Digital geologic map of Iowa: Phase 2: Northeastern Iowa. United States Geological Survey. STATEMAP Program Contract No. 1434-HQ-97-AG-01719. Principal investigator was Raymond R. Anderson, and other co-PIs were Brian J. Witzke, James D. Giglierno, and Bill J. Bunker. Federal and state match totalling to \$105,600.
- 1996-97: Co-principal investigator, Digital geologic map of Iowa: Phase I: Northwestern Iowa. United States Geological Survey. STATEMAP Program Contract No. 1434-HQ-96-AG-01486. Principal investigator was Raymond R. Anderson, and other co-PIs were Brian J. Witzke, James D. Giglierno, and Bill J. Bunker. Federal and state match totalling to \$67,800.
- 1996-97: Co-principal investigator, Completion of geologic mapping program in Linn County, Iowa. United States Geological Survey. STATEMAP Program Contract No. 1434-HQ-96-AG-01487. Principal investigator was E. Arthur Bettis, and other co-PIs were Raymond R. Anderson and Mary R. Howes. Federal, state, and local match totalling to \$68,558.
- 1996-2000: Co-principal investigator, Paleoclimatic Reconstructions of the Eastern Margin of the Albian-Turonian Western Interior Basin, U.S.A. and Canada. National Science Foundation Grant No. EAR9628128. Principal investigator was R.L. Brenner of the University of Iowa. Other co-PIs were L.A. González and B.J. Witzke of The University of Iowa, \$229,000.
- 1995-96: Principal investigator, Paleoclimatology and Paleohydrology of the North American Interior in the mid-Cretaceous “Greenhouse World.” The University of Iowa Center for Global and Regional Environmental Research. Seed Grant Program. Other co-PIs were Luis González, Robert Brenner, and Brian Witzke, \$6,000.
- 1995-96: Co-principal investigator, Continuation of Geologic Mapping Program in Linn County, Iowa. United States Geological Survey. STATEMAP Program Contract No. 1434-95-A-1362. Principal investigator was E. Arthur Bettis, and other co-PIs were Raymond R. Anderson and Mary R. Howes. Federal, state, and local match totalling to \$60,060.
- 1994-95: Principal investigator, Geologic Mapping Program in Linn County, Iowa. United States Geological Survey. STATEMAP Program Contract No. 1434-94-A-1232. Other co-PIs were E.Arthur Bettis, Raymond R. Anderson, and Mary R. Howes. Federal, state, and local match totalling to \$79,095.
- 1994-95: Principal investigator, Paleoclimatic Record of the Dakota Formation in Iowa. Iowa Science Foundation Grant No.ISF-94-19. With Brian Witzke, \$2,150.
- 1994-95: Co-principal investigator; Cretaceous Paleoenvironments of the Dakota Formation in the Missouri River Bluff area: Omaha and Winnebago Reservations, Thurston County, Nebraska. National Geographic Society Grant No. 5271-94. Principal investigator was R.L. Brenner of the University of Iowa. Other co-

PIs were B.J. Witzke of the University of Iowa and R.H. Hammond of the South Dakota Geological Survey, \$5,439.

- 1993-94: Co-principal investigator, Mapping the Letts, Iowa and Blanchard Island, Illinois-Iowa 7.5 minute geological quadrangles in southeast Iowa and adjacent Illinois. United States Geological Survey. STATEMAP Program Contract No. 1434-93-A-1152. Other co-PIs were E. Arthur Bettis and Bernard E. Hoyer. Federal and state match totalling to \$18,000
- 1991-92: Lead worker, Investigation of the flow path of mineralizing fluids and the limits of mineralized strata in the Upper Mississippi Valley zinc-lead district of Iowa and Wisconsin. Contract No. 143184-91. United States Geological Survey. Principal investigator was R.R. Anderson, \$9,900.
- 1991-92: Principal investigator, Paleo-ocean chemistry of Devonian seas in Iowa. Grant No. ISF-91-25. Iowa Science Foundation. With Luis González, Brian Witzke, and Orrin Plocher, \$5,000.
- 1990-91: Principal investigator, Sedimentologic, petrographic, and isotopic investigation of fossiliferous carbonate concretions from marine shales in the Late Cretaceous Greenhorn marine cyclothem of the eastern margin of the Western Interior Seaway. Funds contributed by Chevron U.S.A. Inc. to the Department of Geology, University of Iowa, by the South Dakota Geological Survey, and by the Iowa Department of Natural Resources-Geological Survey Bureau. With Brian Witzke, Luis González, and Orrin Plocher, \$1,600.
- 1989-90: Co principal investigator, Petrographic and Rb-Sr isotopic study of provenance of Pennsylvanian sandstones in Iowa. Grant No. ISF-89-9. Iowa Science Foundation. Lead author of grant proposal. Principal investigator was R.L. Brenner of the University of Iowa. Other co investigators were Roland Scal of the University of Iowa, and Carla Montgomery of Northern Illinois University, \$2,463.
- 1988 Co-principal investigator, Study of exposed Pennsylvanian and Quaternary channel deposits and their erosion potential along the shores of Coralville Lake. Contract No. DACW25 88-M-0684. United States Army Corps of Engineers, Rock Island District. Principal investigator was E.A. Bettis III, \$1,000.
- 1987-88: Co-principal investigator, Study of the mineralogy, paragenesis, and stable isotopic compositions of sulfide mineral deposits associated with Late Paleozoic karst fills in Devonian limestones in eastern Iowa. Grant No. ISF-87-38. Iowa Science Foundation. Principal investigator was Paul Garvin of Cornell College, \$2,100.
- 1986: Principal investigator, Isotopic study of galena ore minerals at the Fessler No. 2 mine at the Mines of Spain, Dubuque County, Iowa. Contract No. SPAB-3. State Preserves Advisory Board, Iowa Conservation Commission. With Tim Millen of Northern Illinois University, and Curtis Wright of the University of Dubuque, \$500.

MANUSCRIPTS IN PRESS, REVISION, OR REVIEW:

Lee, J., Möller, A., McLean, N.M., Ludvigson, G.A., Suarez, M.B., and Joeckel, R.M., *in review*, The U-Pb geochronology of paleosol cryptotephra in the Cretaceous Cedar Mountain Formation and the temporal calibration of Aptian-Albian carbon isotope excursions: *in Geosciences*, Special Issue on *Terrestrial Paleoclimatology and Paleohydrology of the Cretaceous Greenhouse World*. (due for submission in September 2022; 20 pages, 10 figures).

MANUSCRIPTS IN PREPARATION:

González, L.A., Ludvigson, G.A., Ufnar, D.F., Witzke, B.J., and Brenner, R.L., *in preparation*, Methane fluxes from mid-Cretaceous wetland soils: insights gained from carbon and oxygen isotopic studies of sphaerosiderites in paleosols: for submission to *Palaeogeography, Palaeoclimatology, Palaeoecology*.

Joeckel, R.M., Kvale, E.P., Ludvigson, G.A., Brenner, R.L., Witzke, B.J., Zawistoski, A.N., and Ravn, R.L., *in preparation*, Seasonal rainfall records from tidal rhythmites in the Upper Albian Dakota Formation: for submission to *Geology*.

Phillips, P.L., González, L.A., Ludvigson, G.A., and Brenner, R.L., *in preparation*, Cone-in-cone structures: A key to understanding submarine freshwater discharge?: for submission to the *Journal of Sedimentary Research*.

Phillips, P.L., González, L.A., Ludvigson, G.A., Brenner, R.L., and Witzke, B.J., *in preparation*, The effects of Cretaceous sea-level changes and submarine groundwater discharge on the precipitation of early diagenetic carbonate cements in shallow marine deposits: Examples from the Manitoba Escarpment.

Schneider, C.L., Ludvigson, G.A., and Witzke, B.J., *in preparation*, The stratigraphic architecture, stable isotopic chemostratigraphy, paleoecology, and depositional dynamics of the Quimbys Mill Sequence (Ordovician), Upper Mississippi Valley, USA.

PEER-REVIEWED RESEARCH PUBLICATIONS

- Palafox, L.E.A., Möller, A., McLean, N.M., Ludvigson, G.A., Colombi, C.E., and Montañez, I.P., 2024, U-Pb geochronology of paleosol carbonate cements by LA-ICP-MS: A proof of concept and strategy for dating the terrestrial record: *Geochemistry, Geophysics, and Geosystems*, v. 25, no. 6, <https://doi.org/10.1029/2024GC011488>
- Hasiuk, F., González, L., Wahbi, A., Blum, M., and Ludvigson, G., 2024, Carbonate stable isotope data suggest freshwater environment for the McMurray Formation (Aptian), Alberta, Canada: *Geosciences*, 14:5:120. <https://www.mdpi.com/2076-3263/14/5/120>
- Suarez, M.B., Al Suwaidi, A., Montgomery, E., Paige, M., Suarez, C.A., McLean, N., Möller, A., Andrew, J., Ludvigson, G., and Kirkland, J.I., 2023, New geochronological age constraint and chemostratigraphy for Aptian lacustrine strata, Cedar Mountain Formation, Utah: *Geochemistry, Geophysics, Geosystems*, v.24, no. 9. <https://doi.org/10.1029/2023GC011014>
- 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* 13:273. <https://doi.org/10.3390/geosciences13090273>
- Joeckel, R.M., Suarez, C.A., McLean, N.M., Möller, A., Ludvigson, G.A., Suarez, M.B., Kirkland, J.I., Andrew, J., Kiessling, S., and Hatzell, G.A., 2023, Berriasian—Valanginian geochronology and carbon-isotope stratigraphy of the Yellow Cat Member, Cedar Mountain Formation, eastern Utah, USA: *Geosciences* 13:32. 18 p. <https://doi.org/10.3390/geosciences13020032>
- Layzell, A.L., Ludvigson, G.A., Smith, J.J., and Mandel, R.D., 2023, Using the factors of soil formation to assess stable carbon isotope disequilibrium in late Pleistocene (MIS 3) buried soils of the Great Plains, North America: *Palaeogeography, Palaeoclimatology, Palaeoecology* 620:111574. <https://doi.org/10.1016/j.palaeo.2023.111574>
- Sarna-Wojcicki, A.M., Knott, J.R., Westgate, J.A., Budahn, J.R., Barron, J., Bray, C.J., Ludvigson, G.A., Meyer, C.E., Miller, D.M., Otto, R.E., Pearce, J.G., Smith, C.C., Walkup, L.C., Wan, E., and Yount, J., 2023, Ixobrycon Hollow Tuff from ca. 12 Ma supereruption, southern Idaho, identified across North America, eastern Pacific Ocean, and Gulf of Mexico: *Geosphere*. <https://doi.org/10.1130/GES022593.1>
- Suarez, M.B., Al Suwaidi, A., Montgomery, E.H., Kirkland, J.I., Andrew, J., Mclean, N., Möller, A., Ludvigson, G., and Suarez, C.A., 2023, New geochronological age constraint and chemostratigraphy for Aptian lacustrine strata, Cedar Mountain Formation, Utah: *Geochemistry, Geophysics, Geosystems*, 24, e2023GC011014. <https://doi.org/10.1029/2023GC011014>
- Andrzejewski, K.A., Layzell, A.L., Ludvigson, G.A., Joeckel, R.M., Möller, A., and Mandel, R.D., 2022, Unique insights to the Cretaceous OAE1d, Mid-Cenomanian Event, and OAE2 from long-line drillcores along the eastern cratonic margin of the Western Interior Basin: in *The Cenomanian-Turonian Stratigraphic Interval Across the Americas: Argentina to Alaska*. Proceedings of 38th Annual Gulf Coast Section SEPM Foundation, Perkins-Rosen Conference and Core Workshop, December 5-9, 2022, Houston TX., p. 1-14.
- Gulbranson, E.L., Rasbury, E.T., Ludvigson, G.A., Möller, A., Henkes, G., Suarez, M.B., Lanzirrotti, A., Northrup, P., Tappero, R.V., Kirkland, J.I., Maxson, J.A., Shapiro, R.S., and Wootton, K., 2022, U-Pb geochronology and stable isotope geochemistry of terrestrial carbonates, Lower Cretaceous Cedar Mountain Formation, Utah: Implications for synchronicity of terrestrial and marine carbon isotope excursions: in *Geosciences* 12:346. 24 p. <https://doi.org/10.3390/geosciences12090346>
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