

Education

Ph.D., Geosciences, University of Iowa, 2000
M.S., Earth & Planetary Science, University of New Mexico, 1995
B.A., Geology, Hamilton College, 1991

Professional Experience

Professor of Geology, Cornell College, 2013 – present
Associate Professor of Geology, Cornell College, 2006 – 2013
Geosciences Consultant, ACT, 2008, 2010, 2011, 2013
Visiting Scientist, University of New Mexico, 2006 – 2007
Chair, Department of Geology, Cornell College, 2003 – 2006; 2009 – 2012
Chair, Environmental Studies Program, Cornell College, 2001 – present
Member, Center for Global and Regional Environmental Research, 2001 – present
Adjunct Assistant Professor, Department of Earth and Environmental Science, University of Iowa, 2001 – present
Assistant Professor of Geology, Cornell College, 2000 – 2006
Visiting Lecturer in Geology, Cornell College, 1999

Fellowships & Awards

Campbell McConnell Sabbatical Fellowship, Cornell College, 2006
T. Anne Cleary Dissertation Research Fellowship, University of Iowa, 1999
Outstanding Teaching Assistant Award, University of Iowa, 1998
Richmond Area Speleological Society Howard Urbach Award, 1997
Trowbridge Award for Outstanding Geology Doctoral Student, University of Iowa, 1997
Associated Western Universities Fellowship, Los Alamos National Laboratory, 1993 – 1994

Course Offerings

Geology

Physical Geology (GEO 111)	Climate Change (GEO 122) ^a
Tectonics (GEO 214)	Earth Surface Systems (GEO 320)
Climates of the Ice Age (GEO 322)	Geology of New Zealand (GEO 329)

Environmental Studies

Environmental Perspectives (ENV 101) ^b	Environmental Geology (ENV 301)
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^a offered as a writing-intensive course in alternate years
^b co-taught with Economics Professor A'amer Farooqi

Publications

Published Manuscripts (Student authors in red)

Denniston, R.F., Wyrwoll, K.-H., Polyak, Brown, J. Asmerom, Y., Wanamaker, A. Jr., LaPointe'Z., **Ellerbroek, R.**, **Barthelmes, M.**, **Cleary, D.**, Cugley, J., Woods, D., Humphreys, W. (2013) A Stalagmite Record of Holocene Indonesian-Australian Summer Monsoon Variability from the Australian Tropics. *Quaternary Science Reviews* 78, 155-168; 10.1016/j.quascirev.2013.08.004.

- Denniston, R.F.**, Asmerom, Y., Lachniet, M., Polyak, V., **An, N.**, **Rodzinyak, K.**, and Humphreys, W. (2013) A Last Glacial Maximum Through Middle Holocene Stalagmite Record of Coastal Western Australia Climate. *Quaternary Science Reviews* **77** 101-112; 10.1016/j.quascirev.2013.07.002.
- Denniston, R.F.**, Wyrwoll, K-H., Asmerom, Y., Polyak, V.J., Humphreys, W., Cugley, J., Woods, D., **Peota, J.** and **Greaves, E.** (2013) North Atlantic Forcing of Millennial-Scale Australian Monsoon Variability during the Late Glacial. *Quaternary Science Reviews* **72**, 159-168.
- Polyak, V. and **Denniston, R.** (2011) Paleoclimate Records in Caves *In* Culver, D. and White, W. (Eds). *Encyclopedia of Caves*, 2nd edition, Elsevier.
- Haws, J. Funk, C., Benedetti, M., Bicho, N., Daniels, J., Minckley, T., **Denniston, R.**, Jeraj, M., Gibaja, J. and Hockett, B. (2011) Paleolithic seascapes along the west coast of Portugal *In* Bicho, N., Haws, J., and Davis, L. (Eds). *Trekking the Shore: Changing Coastlines and the Antiquity of Coastal Settlement*. Springer, 450 p.
- Denniston, R.F.**, **Penn, S.C.**, Carpenter, S.J., and Budd, A.F. (2008) Constraints on Late Miocene Shallow Marine Seasonality for the Central Caribbean using $\delta^{18}\text{O}$ and Sr/Ca Ratios in a Fossil Coral. *In* Nehm, R.H. and A. F. Budd (Eds). *Evolutionary Stasis: Species and Communities through Geological Time*. Springer: New York, pp. 47-52.
- Denniston, R.F.**, Asmerom, Y., Polyak, V., McNeill, D.F., Klaus, J.S., **Cole, P.**, and Budd, A.F. (2008) Caribbean Chronostratigraphy Constrained with U-Pb and $^{87}\text{Sr}/^{86}\text{Sr}$ Analysis of a Miocene Coral. *Geology*, **36**, 151-154.
- Denniston, R.F.**, **DuPree, M.**, Asmerom, Y., Polyak, V. Dorale, J.A., and Carpenter (2007) Episodes of Increased Aridity in the Late Holocene Recorded by Stalagmites from Devils Icebox Cave, Central Missouri, USA. *Quaternary Research*, **68**, 45-52.
- Denniston, R.F.**, Asmerom, Y., Polyak, V. Dorale, J.A., Carpenter, S.J., **Trodick, C.** **Hoye, B.**, and González, L.A. (2007) Synchronous millennial-scale climatic changes in the Great Basin and the North Atlantic during the last interglacial. *Geology*, **35**, 619-622.
- Baker, R.G., Bettis E.A. III, **Denniston, R.F.**, González, L.A., Strickland, L.E. and Krieg, J.R. (2002) Holocene paleoenvironments in southeastern Minnesota--chasing the prairie-forest ecotone. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **177**, 103-122.
- Denniston, R.F.**, González, L.A., Polyak, V., Asmerom, Y., Reagan, M.K., and Saltzman, M.R. (2001) A high-resolution speleothem record of climatic variability during the Allerød-Younger Dryas transition in Missouri, central United States. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **176**, 147-155.
- Baker, R.G., Bettis, E.A., III, **Denniston, R.F.**, and González, L.A. (2001) Plant remains, alluvial chronology, and cave speleothem isotopes indicate abrupt Holocene climatic change in Midwestern USA. *Global and Planetary Change*, **28**, 285-291.
- Denniston, R.F.**, González, L.A., Asmerom, Y., Sharma, R.H., and Reagan, M.K. (2000) Speleothem evidence for changes in Indian summer monsoon precipitation over the last ~2300 years. *Quaternary Research* , **53**, 196-202.
- Denniston, R.F.**, González, L.A., Asmerom, Y., and Reagan, M.K. (2000) Speleothem records of Holocene paleoenvironmental change in the Ozark Highlands, U.S.A. *Quaternary International*, **67**, 21-28.
- Denniston, R.F.**, Gonzalez, L.A., Semken, H.A., Jr., Baker, R.G., Recelli-Snyder, H., Reagan, M.K., and Bettis, E.A., III. (1999) Integrating stalagmite, vertebrate, and pollen sequences to investigate Holocene vegetation and climate change in the southern Midwest. *Quaternary Research*, **52**, 381-387.
- Denniston, R.F.**, Gonzalez, L.A., Baker, R.G., Asmerom, Y., Reagan, M.K., Edwards, R.L., and Alexander, C.E. (1999) Speleothem evidence for a sharp and long-term prairie-forest ecotone at the northeast border of the middle Holocene prairie peninsula. *The Holocene*, **9**, 671-676.
- Denniston, R.F.**, González, L.A., Asmerom, Y., Baker, R.G., Reagan, M.K. and Bettis, E.A. III. (1999) Evidence for increased cool season moisture during the middle Holocene. *Geology*, **27**, 815-818.
- Denniston, R.F.**, Shearer, C.K., Vaniman, D.T., and Layne, G.D. (1997) Minor and trace element distributions in fracture calcites from Yucca Mountain, Nevada. *Geochimica et Cosmochimica Acta*, **61**, 1803-1818.

Hickmott, D.D., Herrin, J.M., Abel, R., George, M., Stimac, J., Gauerke, E.R., and **Denniston, R.F.** (1997) Environmental applications of the LANL nuclear microprobe. *Nuclear Instruments and Methods in Physics Research B*, **130**, 564-570.

Abstracts

- Houts, A.N.**, Denniston, R.F., Asmerom, Y., Polyak, V., Wanamaker, A.D., Jr., and Haws, J. (2013) A stalagmite record of millennial-scale continental climate variability during the last glacial cycle from western Iberia. *Geological Society of America Annual Meeting Abstracts with Programs*, v. 45, no. 7, p.
- An, N.**, Denniston, R.F., Lachniet, M., Polyak, V., Asmerom, Y. and Humphreys, W. (2013) A stalagmite record of climate variability from the Last Glacial Maximum through middle Holocene from Cape Range, Western Australia. *Geological Society of America Annual Meeting Abstracts with Programs*, v. 45, no. 7, p.
- Denniston, R.F., **Houts, A.**, Polyak, V., Wanamaker, A.D., Jr., Asmerom, Y., Benedetti, M., and Bicho, N. (2013) A stalagmite record of western Iberia climate from the last glacial cycle. *The 8th International Conference on Geomorphology of the International Association of Geomorphologists*, Paris, France, August 27-31, 2013.
- Denniston, R.F., Wyrwoll, K-H., Polyak, V.J., Asmerom, Y., **Barthelmes, M.**, and **Cleary, D.** (2012) Oxygen isotopic ratios and mud layers from tropical Australian stalagmites tied to extreme precipitation events over the last 1000 years. *Geological Society of America Annual Meeting Abstracts with Programs*, v. 44, no. 7, pg. 84
- Wyrwoll, K-H., Denniston, R.F., Yaping, S., and Zhaohui, L. (2012) East Asian-Australian monsoon states and connections over millennial time scales”. *21st Century Science and Technology for a Green Economy and Sustainable Development – The China Science Center of International Eurasian Academy of Sciences*. Beijing, China. 5-7 April, 2012.
- Denniston, R.F., Asmerom, Y., Polyak, V.J., Wyrwoll, K-H., Humphreys, W., Cugley, J., and Woods, D. (2011) Tropical cyclone origin of mud layers in stalagmites from tropical Australia. *Geological Society of America Annual Meeting Abstracts with Programs*, v. 43, No. 5 (session: “Extreme Climate and Weather Events: Past, Present, and Future”).
- Denner, M.** and Denniston, R.F. (2011) Combined Stalagmite and Limpet-Based Holocene Paleoclimate Reconstructions from Coastal Portugal. *123rd Annual Meeting of the Iowa Academy of Science*, Wartburg College, Waverly, Iowa.
- Campbell, N.** and Denniston R.F. (2011) Reconstructing tropical cyclone frequency using mud layers in speleothems. *123rd Annual Meeting of the Iowa Academy of Science*, Wartburg College, Waverly, Iowa.
- Greaves, E.** and Denniston, R.F. (2011) Indonesian-Australian Summer Monsoon Variability In The Early Holocene. *123rd Annual Meeting of the Iowa Academy of Science*, Wartburg College, Waverly, Iowa.
- Michaelson, A.**, Denniston, R.F., Asmerom, Y., and Polyak, V. (2009) Trace elemental analysis of a northern Australian stalagmite. *Geological Society of America Spring Meeting Abstracts with Programs*, **41**, No. 4, p.
- Ellerbroek, R.** and Denniston, R.F. (2009) Insolation, ENSO, and solar controls on northern Australia moisture. *Annual Meeting of the Iowa Academy of Science*.
- Krauter, E.** and Denniston, R.F. (2009) New age constraints on a stalagmite paleoclimate record from Western Australia. *Annual Meeting of the Iowa Academy of Science*.
- Rodzinyak, K.J.**, Denniston, R.F., Asmerom, Y., Wyrwoll, K.H., and Humphreys, W. (2007) Australian Stalagmites Indicate Dominance of Summer Hemisphere Insolation and a Wetter Holocene than Pleistocene. *Geological Society of American Spring Meeting Abstracts with Programs*, **39**, p. 12.
- Moellers, L.**, Denniston, R.F., Carpenter, S.J., Dorale, J.A., Polyak, V., and Asmerom, Y. (2006) A stalagmite record of the penultimate deglaciation from northwestern Arkansas. *Geological Society of America Spring Meeting Abstracts with Programs*, **38**, p. 27.

- Krogmeier, D.** and Denniston, R.F. (2006) Late Pleistocene vegetation and climate change in the Midwest reconstructed using stalagmites from northeastern Arkansas. *Annual Meeting of the Iowa Academy of Science*.
- Lommler, M.**, Denniston, R.F., and Budd, A.F. (2006) Comparison of U/Ca and Sr/Ca ratios in Neogene corals from the Dominican Republic. *Geological Society of America Spring Meeting Abstracts with Programs*, **38**, No. 4, p. 75.
- Trodick, C.**, Denniston, R.F., Asmerom, Y., Polyak, V., Haws, J., Souto, P. (2006) U-Th chronologies of stalagmites from Almonda Cave, western Portugal. *Geological Society of America Spring Meeting Abstracts with Programs*, **38**, p. 27.
- Borowske, A.C.**, Denniston, R.F., Haws, J.F., Carpenter, S.J., and Dorale, J.A. (2005) A Stable Isotopic Analysis of an End Pleistocene-Age Stalagmite from Almonda Cave, West-Central Portugal. *Geological Society of American Spring Meeting Abstracts with Programs*, **37**, 5, p. 12.
- Cole, P.**, Denniston, R.F., Asmerom, Y., Polyak, V.Y., Donald F. McNeill, D.F., and Budd, A. (2005) Uranium-Lead Dating of a Coral from the Neogene Gurabo Formation, Dominican Republic. *Geological Society of American Spring Meeting Abstracts with Programs*, **37**, No. 5, p. 78.
- Hoye, B.**, Denniston, R.F. Carpenter, S.J., Jeff A. Dorale, J.A., Asmerom, Y. and Polyak, V.Y. (2005) Stable Isotopic Trends in a 23-16 ka Arkansas Stalagmite. *Geological Society of American Spring Meeting Abstracts with Programs*, **37**, No. 5, p. 12.
- Baker, R.G., Dorale, J.A., Bettis, E.A., Moss, P., and Denniston, R.F. (2004) Contrasts in prairie-forest border dynamics in the northern vs. southern Midwest. *American Quaternary Association 18th Biennial Meeting Abstracts with Programs*, Lawrence, KS, 107-108.
- Denniston, R.F. (2004) Preliminary geochemical analysis of corals from the Neogene Gurabo Formation, Dominican Republic. *116th Annual Meeting of Iowa Academy of Science*, Cedar Falls, Iowa, April 24.
- Denniston, R.F. and **Penn, S.** (2004) Suitability of corals from the Gurabo Formation, Dominican Republic, for geochemically-based SST reconstructions. *Geological Society of American North-Central Meeting Abstracts with Programs*, v. **36**, 52.
- Clements, A.** and Denniston, R.F. (2004) Refining a High Resolution Climate Record from a Late Pleistocene New Zealand Speleothem: Stage 1 - Cross-Checking a Published Record. *Cornell College Student Symposium Abstracts with Programs*.
- Denniston, R., **DuPree, M.A.**, Asmerom, Y., and Polyak, V.P (2003) Paleoclimatic implications of U-series dating of aragonite and calcite stalagmites from central Nepal. *Geological Society of America Fall Meeting Abstracts with Programs*, **35**, 172.
- DuPree, M.A.**, Denniston, R.F., Asmerom, Y., and Carpenter, S.J. (2003) A 4000-year speleothem stable isotopic record from Devils Ice Box cave, central Missouri. *Geological Society of America Spring Meeting Abstracts with Programs*, Paper No. 19-1.
- Hartman, B.S.**, Gonzalez, L.A., Wulff, A.H. and Denniston, R.F. (2000) Carbon and oxygen isotopic analysis of speleothems from the Pokhara Valley, central Nepal: a record of seasonal to decadal variability in the Indian summer monsoon. *American Geophysical Union Fall Meeting Abstracts with Programs*, **81**, F32.
- Denniston, R.F., González, L.A., and Reagan, M.K. (2000) Mineralogic and stable isotopic characteristics of select Great Basin speleothems. *Geological Society of America Spring Meeting Abstracts with Programs*, **32**, A-11.
- Denniston, R.F. and Gonzalez, L.A. (2000) Holocene environmental change in the Ozarks as deduced from stalagmites. *16th Biennial American Quaternary Association Meeting Abstracts with Programs*, Fayetteville, AR, 5-7.
- González, L.A., Denniston, R.F., Reagan, M.K., Ciochon, R., and Asmerom, Y. (1999) The use of stalagmites in the study of the history of the Asian monsoon system. *Geological Society of America Fall Meeting Abstracts with Programs*, **31**, 89.

- Denniston, R.F., González, L.A., Reagan, M.K., and Asmerom, Y. (1999) A high-resolution record of Indian summer monsoon variability preserved by speleothem carbonate mineralogy. *Geological Society of America Fall Meeting Abstracts with Programs*, **31**, 153.
- Denniston, R.F., González, L.A., Reagan, M.K., and Asmerom, Y. (1999) Effects of the Younger Dryas on the carbon and oxygen isotopic compositions of a Missouri speleothem. *Geological Society of America Spring Meeting Abstracts with Programs*, **31**, 13.
- Denniston, R.F., Gonzalez, L.A., Semken, H.A., Reagan, M.K., and Asmerom, Y. (1998) Combining speleothem carbon and faunal assemblages to examine vegetation change in the southern Midwest. *Geological Society of America Fall Meeting Abstracts with Programs*, **30**, 167.
- Gonzalez, L.A., Denniston, R.F., Baker, R.G., and Reagan, M.K. (1998) Speleothem-based timing for prairie incursion in southeastern Minnesota and northeastern Iowa and its implication on temperature vs. changes in E-T balance during the mid-Holocene. *Geological Society of America Fall Meeting Abstracts with Programs*, **30**, 114.
- Denniston, R.F., Gonzalez, L.A., Asmerom, Y., Baker, R.G., and Reagan, M.K. (1998) Correlating speleothem carbon and pollen records from the southern Midwest: tracking Holocene vegetation changes. *American Quaternary Association Meeting Program with Abstracts*, Puerto Vallarta, 103.
- Denniston, R.F., González, L.A., Baker, R.G., Reagan, M.K., Bettis, E.A., III, Asmerom, Y. and Pickett, D. A. (1998) Effects of middle Holocene vegetation change on the oxygen and carbon isotopic composition of three midwestern speleothems. *American Geophysical Union Fall Meeting Abstracts with Program*, **79**, 107.
- Denniston, R.F. and Gonzalez, L.A. (1997) Microsampling and isotopic analysis of adjacent fluorescent/non-fluorescent band couplets in a Midwestern speleothem. *Geological Society of America Spring Meeting Abstracts with Programs*, **29**, 12.
- Denniston, R.F. and Shearer, C.K. (1995) A mineralogical approach to understanding fluid flow in shallow crustal regimes: application to forecasting the integrity of potential waste repositories. *WERC Meeting*, Las Cruces, NM.
- Denniston, R.F., Shearer, C.K., and Vaniman, D.T. (1994) Application of cathodoluminescence and minor-trace element micro-analysis for deciphering the crystallization history of calcite from shallow crustal regimes. *American Geophysical Union Spring Meeting Abstracts with Program*, Baltimore, **75**, 121.
- Denniston, R.F., Shearer, C.K., and Vaniman, D.T. (1994) An ion microprobe study of trace element (REE, Mn, Sr) zoning in calcite from shallow crustal regimes. *American Geophysical Union Fall Meeting Abstracts with Program*, San Francisco, **75**, 698.
- Denniston, R.F., Shearer, C.K., Vaniman, D.T., and Hickmott, D.D. (1993) Analysis of elemental zoning in calcites from fracture systems at Yucca Mountain, Nevada: preliminary investigations and results. *Fifth Annual Associated Western Universities Annual Meeting*, Carlsbad, NM, 72.
- Denniston, R.F., Gauerke, E., Shearer, C.K., Vaniman, D.T., and Hickmott, D.D. (1993) Trace element distributions in fracture calcites from Yucca Mountain, Nevada: implications for shallow crustal transport phenomena. *American Geophysical Union Fall Meeting Abstracts with Program*, San Francisco, **74**, 677.
- Tewksbury, B.J., Cunningham, A.C., and Denniston, R.F. (1991) A kinematic analysis of the Payne Lake leucogneiss, northwest Adirondack Lowlands, New York. *Geological Society of America Spring Meeting Abstracts with Program*, Baltimore, **23**, 193.

Non-Peer Reviewed Publications

- Denniston, R.F. and Denniston, J.R. (December 2008) So Just How Old is the Grand Canyon? (in French: Le grand canyon prend un coup de vieux), *La Recherche*, No. 425.
- Denniston, R.F. and Denniston, J.R. (2003) Cave Formations Reveal Climate and Archeological Change in New Mexico *Magazine*, New Mexico State Tourism Publication.

- Denniston, R.F. (1999 and subsequent editions) Geology of the Southwest, Geology of the Grand Canyon, Geology of Carlsbad National Park, *in* Lonely Planet Guide to the Southwest: Arizona, New Mexico, Utah (R. Rachioweicki, Ed.), Lonely Planet Publishers, Melbourne, 28-31, 430-431, 954.
- Denniston, R.F. (1999 and subsequent editions) Geology of North America, *in* Lonely Planet Guide to the U.S.A. (R. Rachioweicki, Ed.), Lonely Planet Publishers, Melbourne, 30-33.
- Denniston, R.F. (1999) Geology of the Rio Grande Rift, *in* The History of Corrales, New Mexico (C. Tidwell, Ed.), 16-21.

Invited Publications and Presentations

- "Australian Paleomonsoon Variability: Connections to Asia and the North Atlantic" Iowa State University Environmental Science Seminar, April 2012
- "Here's the Story of the Hurricane: Mud Layers in Northern Australia Stalagmites as Paleotempestology Record" University of Northern Iowa Department of Geosciences, September 2011.
- "The Holocene History of the Australian Monsoon" University of Dubuque Joint Science Department, October 2010.
- "Stalagmites as Paleoclimate Records" University of Northern Iowa Department of Geography, Geomorphology Course Guest Lecture, December 2009.
- "El Nino, the Sun, and the Australian Monsoon" University of Iowa Department of Geosciences Environmental Seminar, September 2009.
- "Formation of the Central American Isthmus and 5 Million Years of Faunal Turnover in the Caribbean" Edgewood College (Madison, WI) Environmental Studies Seminar, April 16, 2004.
- "Towards Caribbean Seasonal Sea Surface Temperature and Salinity Variability from Neogene Corals" University of Dubuque (Dubuque, IA) Department of Environmental Science Guest Lecture, November 14, 2003.
- "Stalagmites as Paleoclimatic Records" Augustana College (Rock Island, IL) Geology Department Seminar, April 25, 2003.
- "Understanding Climatic Change using Speleothems" University of Northern Iowa Department of Geography, Geomorphology Course Guest Lecture, April 21, 2003.
- "Paleoclimatic Implications of a Negative Oxygen Isotopic Excursion in Middle Holocene Stalagmites from the Midwest" University of North Dakota Department of Geology and Geological Engineering Leading Edge of Earth and Planetary Sciences Lecture Series, January 31, 2003.
- "The Not-So-Isolated Climate of the Northern American Interior" University of Iowa Department of Geoscience Environmental Seminar, October 9, 2002.
- "Paleo-precipitation and Vegetation Characteristics Deduced from Speleothems" University of Northern Iowa Earth Science Seminar, October 7, 2002.
- "Isotopes in the Midwest and Mineralogy in Nepal: Two Different Approaches to Paleoclimate Reconstructions using Speleothems" Iowa State University Department of Geology Guest Speaker Series, November 30, 2001.
- "Understanding Climatic Change using Speleothem Mineralogy, Growth Rates, and Stable Isotopic Compositions" University of Northern Iowa Department of Geography, Geomorphology Course Guest Lecture, April 24, 2001.
- "Holocene Shifts in Speleothem Isotopic Compositions and their Paleoenvironmental Implications" American Quaternary Association (AMQUA) Meeting, Fayetteville, Arkansas, May 2000.
- "The Use of Speleothems in Paleoclimatic Reconstruction" University of Iowa Department of Geoscience Weekly Seminar, May, 2000.
- "Stalagmites, Caves, and Climate Change" University of Iowa *Afternoon with a Scientist* Speaker Series, Iowa City, Iowa, April 13, 1999.

“Great Basin Speleothems: A Way to Test Milankovitch Cyclicality?” Cornell College, Mt. Vernon, Iowa,
January 31, 2000.

Supervised Undergraduate Research Projects in Geology

<i>Project Title</i>	<i>Student</i>	<i>Year</i>
Stalagmite Records of the Penultimate Glacial Cycle from Western Iberia	Setsen Altan-Ochir	2013
HONORS THESIS: Ultra-High Resolution Isotopic Records of the Indo-Australian Summer Monsoon over the Past Two Millennia	Kristian Passaro	2013
Sea Level Variability over the Last Glacial Cycle (literature study)	Daniel Pawlak	2012
Tropical Sea Surface Temperature Variability over the Last Glacial Cycle (literature study)	David Allen	2012
HONORS THESIS: Coupled Stable Isotopes and Mud Layer Analysis of Aragonite Stalagmites from Tropical Western Australia	Angelique Gonzales	2012
HONORS THESIS: Climate of the Last Glacial Cycle from Portugal Reconstructed using Stalagmites from Glory Hole Cave	Amanda Houts	2012
HONORS THESIS: The Last Glacial Maximum through Middle Holocene Climate Record from Stalagmites from Cape Range, Western Australia	Ni An	2012
Modeling Oxygen Isotopic Ratios in Recent Stalagmite Aragonite from Northern Australia	Andrew Roers	2011
Constraining Initial Thorium Ratios in Northern Australia Stalagmites	Julian Peota	2011
Towards a Unified Paleoclimate Reconstruction from Portuguese Stalagmites	Lucas Anderson	2011
Tropical Cyclones Reconstructions using Mud Layers in a 300-900 Yr Old Tropical Western Australia Stalagmite	Mike Barthelmes	2011
Tropical Cyclones Reconstructions using Mud Layers in a 300-600 Yr Old Tropical Western Australia Stalagmite	Dan Cleary	2011
Comparison of Middle Holocene Oxygen Isotopic Time Series from Australian Stalagmites	Elizabeth Greaves	2010
High-Precision U/Th Dates of GH Cave Stalagmites, Portugal	Megan Denner	2010
Sub-Decadal Climate Reconstructions from Late Holocene Aragonite Stalagmites from the Ning Bing Range, Kimberley, Western Australia	Nick Campbell	2010
Preliminary Dates on a Suite of Stalagmites from the Ning Bing Range, Kimberley, Western Australia	Bipul Timilsina	2009
Refining a U-Th Chronology for a Western Australia Stalagmite Paleoclimate Series	Emily Krauter	2008
Trace Element Characteristics of a Kimberley Australia Stalagmite	Abby Michaelson	2008
Investigating Late Pleistocene Australian Monsoon Variability	Rebecca Ellerbroek	2008
Growth Histories of Stalagmites from Western Australia: Implications for Reconstructing the Australian Monsoon over the Last Glacial Cycle	Kristyn Rodzinyak	2006
A Comparison of U/Ca and Sr/Ca-Based Sea Surface Temperatures from Caribbean Fossil Corals	Michael Lommler	2006
An Arkansas Stalagmite Penultimate Deglaciation Record: Pt I	Lara Moellers	2005
An Arkansas Stalagmite Penultimate Deglaciation Record: Pt II	Diana Krogmeier	2005
Reconstructing Growth Histories of Portuguese Stalagmites: Relationships to Heinrich Events	Charles Trodick	2005
U/Th Dating of Select Great Basin Stalagmites	Amanda Gibson	2005
Collection, Preparation, and Preliminary Chronology of Stalagmites from Coastal Portugal	Alyssa Borowske	2004
U-Pb Dating Pristine Neogene Corals from Dominican Republic	Peter Cole	2004
Construction of Chronologies and Stable Isotopic Trends of Ozark Stalagmites	Brian Hoye	2004

High-Resolution Stable Isotopic Analysis of Sea Surface Temperatures from Neogene Corals from Dominican Republic	Stephanie Penn	2003
High-Res. Stable Isotopic Analysis of a New Zealand Stalagmite	Alexa Clements	2003
A Late Holocene Speleothem Record from Devils Ice Box Cave, Central Missouri	Michelle DuPree	2002

Supervised Undergraduate Capstone Projects in Environmental Studies

<i>Project Title</i>	<i>Student</i>	<i>Year</i>
Gendered Forestry Practices in India (capstone chair)	Megan McElhaney	2013
An Estimation of Population Size of Ornate Box Turtles (<i>Terrapin ornata ornata</i>) at Hawkeye Wildlife Area Using Minimum Number Alive (committee member)	Josh Guenther	2013
IOWATER and Phosphate: A Study on the Effectiveness of Volunteer Water Quality Monitoring Programs (committee member)	David Elston	2013
Uranium Series Dating of Travertine Deposits from the Kimberly Region of Northern Australia (chair; same as Geology capstone)	Aaron Campbell	2013
The Effects of Wet/Dry Years on Body Condition of Ornate Box Turtle (<i>Terrapene ornata ornata</i>) in East Iowa (committee member)	Angela Dugan	2013

External Grants: > \$10,000

<i>Organization</i>	<i>Title</i>	<i>Date</i>	<i>Amount</i>
Center for Global & Regional Environmental Research	Development of a Late Holocene Decadal-Scale Proxy Record of the North Atlantic Oscillation from Portuguese Stalagmites	2013	\$30,000
National Science Foundation	Collaborative Research: Human Responses to Late Pleistocene Coastal Environmental Change in Portuguese Estremadura (PI: Jonathon Haws and Michael Benedetti)	2011	\$10,800
National Science Foundation	RUI: Reconstruction of Recent and Late Holocene Tropical Cyclone Landfalls in Northwestern Australia using Flood Deposits in Aragonite Stalagmites	2011	\$98,000
Mellon Foundation	Enhancing the Integration of Humanities, Social Sciences, and Natural Sciences in Environmental Studies at Cornell College (one of two main authors)	2009	\$316,850
Center for Global & Regional Environmental Research	Speleothem Evidence for the Influences of ENSO and Solar Variability on the Holocene Australian Summer Monsoon	2009	\$27,000
University of Western Australia (Subcontract)	Speleothem Evidence for Late Pleistocene Australian Monsoon Variability (PI: Karl-Heinz Wyrwoll)	2008	\$14,000
Petroleum Research Fund	Dominican Republic Corals As High-Resolution Records Of Shallow Marine Paleoenvironmental Conditions Prior To Closure Of Panamanian Seaway	2004	\$35,000
Center for Global & Regional Environmental Research	Development of a High-Resolution Paleoclimate Data Set from New Zealand using Speleothem Growth Banding and Stable Isotopic Ratios	2002	\$16,140
National Science Foundation	Acquisition of an Alpha Spectrometry System for Research and Undergraduate Training in Geology and Environmental Science (with B. Greenstein)	2001	\$97,826
National Science Foundation	Collaborative Research: Timing of Late Holocene Changes in Summer Indian Monsoon Intensity as Recorded in Mineralogic Changes in Speleothems, Pokhara Valley, Central Nepal	2000	\$20,000

External Grants: < \$10,000

<i>Organization</i>	<i>Title</i>	<i>Date</i>	<i>Amount</i>
University of Western Australia (Subcontract)	Speleothem Evidence for Late Pleistocene Australian Monsoon Variability (PI: Karl-Heinz Wyrwoll)	2011	\$5,000
Iowa Science Foundation	High Resolution Stable Isotope Reconstructions of Portuguese Climate using Limpet Shells from Archeological Middens	2010	\$5,000
University of Western Australia (Subcontract)	Isotopic Analysis of Speleothems from Cape Range, Western Australia (PI: Karl-Heinz Wyrwoll)	2008	\$4,000
Iowa Science Foundation	Establishing Growth Histories for Stalagmites from Blanchard Springs Caverns, North Central Arkansas as a First Step Toward Paleoenvironmental Reconstructions	2006	\$5,000
Associated Colleges of the Midwest	Faculty Careers Enhancement Project: Construction of a 50,000 Year Paleoclimate Record for the Nazare Region, Portugal	2006	\$3,000
Iowa Science Foundation	Reconstructing Late Pleistocene Vegetation Change in the Ozarks using Stalagmites from Cosmic Caverns, Arkansas	2005	\$5,000
Iowa College Foundation	R.J. McElroy Student/Faculty Research Program: Dominican Republic Coral Research	2003	\$1,700
Iowa College Foundation	R.J. McElroy Student/Faculty Research Program: Midwestern Speleothem Research	2002	\$1,745
Iowa Science Foundation	Reconstructing Shifts in Prairie and Deciduous Forest across the Central Midwest using Speleothems	2002	\$4,000

Professional Affiliations/Memberships

Union of Concerned Scientists	American Geophysical Union
Geological Society of America	National Speleological Society
American Quaternary Association	Nepal Geological Society
Iowa Academy of Science	National Association Geoscience Teachers
Center for Global & Regional Environmental Research	Geological Society of Iowa

Synergistic Activities*Reviewer for the Following Journals*

Geology	Palaeogeography, Palaeoclimatology, Palaeoecology
Journal of Geophysical Research	Quaternary Research
Chemical Geology	Quaternary Science Reviews
Geophysical Research Letters	Geosphere
Geochimica et Cosmochimica Acta	Journal of Cave and Karst Studies
Journal of Geoarcheology	Marine Geology
Journal of Iowa Academy of Science	Chinese Science Bulletin
Global and Planetary Change	African Journal of Science and Technology

Stewardship of Geological Societies

Member, Iowa Science Foundation Committee, Iowa Academy of Science, 2010-2011

Chair, Geology Section, Iowa Academy of Science, 2003-2004

Vice-Chair, Geology Section, Iowa Academy of Science, 2002-2003

Committee on Preserves, Iowa Academy of Science, 2001-2002

Board of Directors, Geological Society of Iowa, 2001-2012

Activities/Outreach

Op-Ed, *Mount Vernon/Lisbon Sun*, October 31, 2013 (co-author Dr. David Osterberg)

Op-Ed, *Mount Vernon/Lisbon Sun*, November 30, 2012 (co-author Dr. David Osterberg) – “Professors support action on climate change”

Invited to lobby members of Congress on the science of climate change on behalf of the National Wildlife Federation and RE-AMP in Washington, D.C., 2012 (unable to participate).

Signatory, Iowa Climate Statement (2011; 2013) and member of climate science and climate policy advocacy group directed by Iowa State legislator Rob Hogg (www.iowaclimateadvocates.org)

The Atlantic Monthly – interviewed for Nine-And-A-Half Questions, a regular online feature dedicated to professionals involved in sustainability and the environment, October 2011

Iowa Private College Day at Iowa State Capitol – represented Cornell with Bipul Timulsina (2010)

Career Exploration Day, Kirkwood Community College at Mount Vernon Middle School (2010)

Cedar Rapids Gazette cover article, “Stalagmites indicate climate trouble ahead, Cornell professor says”, December 14, 2009

Representative of Iowa for Union of Concerned Scientists in meetings with Congressional legislators to discuss impacts of climate change on midwestern states, Washington, D.C., September, 2009.