

ISABEL PATRICIA MONTAÑEZ

- Education:* B.A. Geology (May 1981) Bryn Mawr College, Bryn Mawr, PA
Ph.D. Geology (Dec. 1989) Virginia Polytechnic Institute, Blacksburg, VA
- Employment:*
- | | |
|--|------------------------|
| Department of Geology, University of California, Davis | |
| <i>Full Professor of Geology</i> | July 2000 to present |
| <i>Associate Professor of Geology</i> | Jan. 1998 to June 2000 |
| Department of Earth Sciences, University of California, Riverside | |
| <i>Associate Professor of Geology</i> | July 1995 to Dec. 1997 |
| <i>Assistant Professor of Geology</i> | Jan. 1990 to June 1995 |
| Department of Geological Sciences
Virginia Polytechnic Institute | 1983 to Dec. 1989 |
| <i>Teaching & Research Assistant</i> | |
| Department of Paleobiology
National Museum of Natural History, Smithsonian | 1982 to 1983 |
| <i>Museum Technician</i> | |
| Everrett & Associates
Consultants on Environmental & Resource Management
Rockville, MD | 1981 to 1983 |
| <i>Research Assistant</i> | |

HONORS & AWARDS

- *Fellow* of the Geochemical Society & European Association of Geochemistry (2016)
- *Chinese Academy of Sciences President's International Distinguished Faculty Fellowship* (2016)
- *Chancellor's Leadership Professor* (awarded July 2015)
- Plenary speaker, 19th *International Sedimentological Congress*, Geneva Switzerland (August 2014)
<https://www.youtube.com/watch?v=3FITKXBSTp8>
- *Baldwin Frontiers in Geology Lecture (12th Annual)*, Co-sponsored by the Miami University College of Arts & Sciences & Dept. of Geology and Environmental Earth Science (2014)
- *Fellow* of the American Association for the Advancement of Science (elected 2012)
- *Fellow* of the John Simon Guggenheim Memorial Foundation (2011-2012)
- *F. Earl Ingerson Lecture*, Geochemical Society, presented at the National Meeting of the Geological Society of America (2012)
- *Klepser Distinguished Lecture*, Dept. of Earth and Planetary Sciences, University of Tennessee (2012)
- *Herbert A. Young Society Dean's Fellow*, College of Letters and Sciences (2010-2013)
- *Accomplishment-Based Renewal Award*, National Science Foundation (2010-2015)
- *Five-College Geology Distinguished Lecturer* (hosted by the Amherst-Northampton region colleges and Univ. of Massachusetts) (2007)
- *Dorr Lecturer*, Dept. of Geological Sciences, University of Michigan (2005)
- *Teaching Excellence Award*, Associated Students of UC Davis (ASUCD) (2004)
- *Fellow* of the Geological Society of America (elected 2003)

- *Shirley A. Kliegel Distinguished Lecturer in Geological & Planetary Sciences*, California Institute of Technology (2003)
- *American Association of Petroleum Geologists Distinguished Lecturer* (2000-2001)
- James Lee Wilson Award for Excellence in Sedimentary Geology *SEPM (Society for Sedimentary Geology's Young Scientist Award)* (1996)
- American Association of Petroleum Geologists J. "Cam" Sproule Memorial Award (*best published paper, by a young scientist, published by AAPG or an affiliated society*) (1996)
- National Science Foundation -Visiting Professorship for Women Award (1996)
- 'SEPM Outstanding Paper for 1992', *Journal of Sedimentary Petrology* (1994)
- University of California, Riverside - Acknowledgment of Teaching Excellence (1994)
- University of California, Riverside - Chancellor's Research Fellowship (1993)

PROFESSIONAL SERVICE (external from the University of California)

Editorial Positions

- Co-Editor (with 3 others), special issue (‘’) *Earth Science Reviews* (2017)
- Co-Editor (with 4 others), *Palaeogeography, Palaeoclimatology, Palaeoecology* (2016-2020)
- Co-Editor (with Peter Isaacson), *The Sedimentary Record* (2012-2016)
- Co-Editor (with Zhong Qiang, Michael Joachimski, John Isbell), special issue (‘Deep-Time Climatic and Environmental Extremes and Ecosystem Response’) of *Gondwana Research* (2014)
- Co-Editor (one of five), *Basin Research* (2010-2015)
- Co-Editor (with Gerilynn Soreghan), special issue (‘Late Paleozoic Paleotropical Climate’) of *Palaeogeography, Palaeoclimatology, Palaeoecology* (2008)
- Editorial Advisory Board, *Geobiology* (2006 to 2010)
- Associate Editor, *Geosphere* (2005 to 2012)
- Editor, *Special Publications of the International Association of Sedimentologists* (IAS) (2006 to 2007)
- Co-Editor (one of four), *Sedimentology* (2002 to 2006)
- Editorial Board, *Geology* (2005 to 2007)
- Associate Editor, *Journal of Sedimentary Research* (1999 to 2003)
- Lead Editor of SEPM Special Publication No. 57: Basinwide Fluid Flow and Associated Diagenetic Patterns: Integrated Petrologic, Geochemical and Hydrologic Considerations (1997)

Service to Federal Funding Agencies (excluding organizing NSF-funded workshops)

- Member of NSF Search Committee for Division Director of GEO/EAR (Earth Sciences Division of the Geosciences Directorate) (2008)
- NSF, Committee of Visitors (external review), Surface Earth Processes Section (2008)
- NSF, Steering Committee member - *Restructuring the Earth System History (ESH) Program* (restructuring of the previous ESH program to the new Paleo-Perspectives on Climate Change (P2C2) program) (2007-2008)
- Panelist, NSF-EAR (1996-1999)

Committees, Boards, Elected Positions & External University Program Reviews

President Elect (2016-2017) and *President* (2017-2018), Geological Society of America

Member, Board of Advisors, *Biosphere 2*, Univ. of Arizona (2016-2020)

Member, '*Board of Earth Sciences and Resources*', National Research Council of the National Academies (Jan. 2011-Dec. 2016)

Member, *U.S. National Committee for Geological Sciences*, (for the International Union of Geological Sciences Board on International Scientific Organizations), The National Academies (2008 to present)

Chair, Arthur Day Medal Committee, Geological Society of America, (2014-2015)

Member, Doris M. Curtis Women in Science Award Committee, Geological Society of America, (2015-2017)

Member (1 of 3), Local Organizational Committee for the Goldschmidt 2014 meeting (Geochemical Society), Sacramento, California (2013-2014)

Councilor (elected April 2012; 4-year term (2012-2016)), Geological Society of America

Member, External Advisory Board, Earth and Natural Sciences Ph.D. Program, University College Dublin (2013-2018).

Member, External Advisory Board, National Center for Earth-surface Dynamics (NCED2), St Anthony Falls Laboratory of the University of Minnesota in Minneapolis, Minnesota (2013 to present)

Member, STEPPE Advisory Board (NSF-funded coordinating office for 'Research in Life-Climate Interactions Through Earth History' (2012-2014)

Member of External Review Committee (1 of four), College of Natural and Agricultural Sciences, University of California, Riverside (Feb. 2014).

Member of Committee on the '*New Research Opportunities in Earth Sciences*', Board of Earth Sciences and Resources, National Research Council of the National Academies (2010-2012)

Chair, Committee on the '*Importance of Deep-Time Geologic Records for Understanding Climate Change Impacts*', Board of Earth Sciences and Resources, National Research Council of the National Academies (2008-2010)

Member of External Review Committee (1 of four), Geology & Geophysics Department at Texas A&M University (Jan. 2010)

Member of External Review Committee (1 of two), Earth and Environmental Sciences Department at the University of Texas at Arlington (May 2010).

Member, Twenhofel Medal Committee, Society for Sedimentary Geology (SEPM), (2012-2015)

Member, Wilson Award Committee, Society for Sedimentary Geology (SEPM), (2011-2014)

Member of Nominating Committee, Society for Sedimentary Geology (SEPM), (2008-2010)

Councilor, International Association of Sedimentology (IAS) Councilor (2009-present)

ScienCentral News, NY, NY – Advisory Board Member (2007-2010)

Member of the American Association of Petroleum Geologists (AAPG) *Ad Hoc* Global Climate Change Committee (2006-2007)

Member of Steering Committee, GeoSystems – a community-based, NSF-funded initiative in deep-time paleoclimatology (2003 to 2008)

Member-at-Large, Arthur Day Medal Committee, Geological Society of America (2003-2006)

International Association of Sedimentology (IAS) Bureau Member (2002-2007)

Member, Pettijohn Medal Selection Committee SEPM (Society for Sedimentary Geology) (2005-2008)

SEPM Honorary Member Selection Committee (2002-2005)

SEPM Councilor for Research Activities (1996 to 1998)

American Geological Institute Minority Participation Scholarship Committee (1994 to 2000)

SEPM Research Committee (1994 to 1997)

Vice-president, SEPM Pacific Section (1993 to 1994)

Member of the AAPG Distinguished Lecturer Committee (1990 to 1993)

Chairperson & Vice-Chair of the National Carbonate Research Group (1990 to 1992)

National & International Meetings, Workshops, Symposia & Field Trips (leadership positions and invited/keynote presentations only)

Keynote Speaker, 38th *New Phytologist Symposium* “Colonization of the Terrestrial Environment”, Bristol, UK (2016)

Focus Speaker, *2015 California Science Education Conference*, Sacramento, CA (2015)

Keynote speaker, *Earth Life Transitions session*, GSA Annual Meeting, Vancouver, CN (2014)

Plenary speaker (one of three), *Science and Solutions for a Sustainable Environment* National Conference, Dublin, Ireland (2014).

Co-organized and co-convened session *Interdisciplinary approaches to reconstructing climate variability and associated feedbacks from the last deglaciation, Holocene, and Anthropocene*, American Geophysical Union Meeting, San Francisco, CA, (2014)

Co-organized and co-convened session *Novel Approaches to and New Insights from Speleothem-Based Climate Reconstructions*, American Geophysical Union Meeting, San Francisco, CA, (2014)

Plenary speaker (one of four for the Congress), *International Sedimentological Congress 2014, Sedimentology at the Crossroad of New Frontiers*, Geneva, Switzerland (August 2014)

Invited speaker and plenary session co-Chair, *The 3rd International Conference of Geobiology, Combining Ancient Records with Present-day Observations*, Wuhan, China (June 2014).

Co-organized and co-convened session *Advances in Chemical, Biologic and Biogeochemical Proxies for Terrestrial Paleoclimate Reconstruction*, Goldschmidt Meeting, Sacramento, CA (2014)

Keynote speaker, *Pre-Cenozoic Climates International Workshop*, Toulouse, France, June 2013

Keynote speaker, SEPM Business Luncheon, American Annual Meeting of the Association of Petroleum Geologists, May 21, Pittsburgh, PA. (2013)

Co-organized and co-convened session *Data-modeling reconstruction of global climate over the last 21,000 years*, AGU Fall Meeting, San Francisco, CA (2012)

Keynote speaker for session *Sedimentation in Icehouse versus Greenhouse Epochs*, International Geologic Congress, Brisbane, Australia, August 8, 2012

Invited panelist and speaker, *Toward Stabilization of Net Global Carbon Dioxide Levels*, AAAS Annual Meeting, Vancouver, Canada, Feb. 16, 2012.

Invited speaker for session *Global Freezes and Thaws Prior to the Cenozoic*, American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 6, 2011

Keynote speaker for session *Paleotemperature, Paleocirculation, and Chemistry of Carboniferous and Permian Oceans*, XVII International Congress on the Carboniferous and Permian, Perth, Australia, July 4, 2011.

Co-organized and co-convened session *Permo-Carboniferous Climates and their Significance to Interpreting Modern Climate Change and Ecosystem Response*, XVII International Congress on the Carboniferous and Permian, Perth, Australia (July 2011)

Co-chaired session *Advances in Paleooceanography and Paleoclimatology*, GSA Annual Meeting, Denver, CO (2010)

Co-organized and co-convened NSF-sponsored workshop *Grand Challenges in Sedimentary Geology & Paleobiology*, Lake Tahoe, NV (2010).

Co-organized and co-chaired session *Marine-Terrestrial Linkages of the Past*, Goldschmidt Conference, Knoxville, TN (2010)

Member of the planning & organizational team for scientific theme *Evolution of Earth's Surface Environment*, Goldschmidt Conference, Davos, Switzerland (2009)

Co-organized and co-chaired session *Reconstructing Paleo-Atmospheric pCO₂ & Its Role in Long-Term, Extreme and Abrupt Global Climate Change Through Earth History*, Goldschmidt Conference, Davos, Switzerland (2009)

Co-chaired session '*Terrestrial Records/Analogues of Modern and Ancient Climate Change*', Goldschmidt Conference, Davos, Switzerland (2009)

Co-organized and co-chaired session '*Phanerozoic Climate Change: Implications from Stratigraphy, Diagenesis and Modeling of the Late Paleozoic Icehouse*', AAPG Meeting, Denver, CO (2009)

Co-organized and co-chaired session '*Permian and Triassic Terrestrial Biotic Responses to Global Perturbations*', GSA Annual Meeting, Houston, TX (2008)

Co-organized session '*Late Palaeozoic Climate on Pangaea: From Icehouse to Warmhouse*', International Geological Congress, Oslo, Norway (2008)

Co-chaired session '*Assessment of Speleothem Paleoenvironment Proxies Using Studies in Modern Karst Systems*', GSA Annual Meeting, Houston, TX (2008)

Co-organized and co-chaired GSA Sedimentary Geology Division session '*Late Paleozoic Glacial-interglacial Climate Changes: Analogs for Present and Future Climate Changes*', GSA Annual Meeting, Denver, CO (2007)

Co-organized and co-chaired session and presented in '*GeoSystems: Hothouses to Icehouse Climates*', National Meeting of the AAAS, St. Louis, MO (2006).

Co-organized and co-chaired session '*Raiding the Palaeozoic/Mesozoic Sedimentary Archive: Investigating Environmental Change with Multiple Proxies*', European Geosciences Union, Vienna, Austria (2006)

Co-organized and co-chaired session '*High-resolution Climate Records: Correlating the Proxy Record with the Meteorological Record*', GSA - Earth System Processes 2, Calgary, Canada (2005)

Discussant for session '*GeoSystems: Alternative-Earth Climates and Linked Systems Through Time*', AAAS Annual Meeting, Washington, D.C. (2005)

Co-chaired session '*Paleoclimatology and Paleooceanography*', GSA Meeting, Denver, CO (2004)

Co-organized and co-chaired session '*GeoSystems: Deep-Time Paleoclimatology and Linked Earth Systems Through Time*', AGU Fall Meeting, San Francisco, CA (2004)

Co-organized and co-chaired SEPM session '*Stratigraphic, Biologic and Geochemical Proxies for Paleoclimate*', Annual Meeting, AAPG, Salt Lake City, UT (2003)

Co-organized and co-chaired SEPM session '*Differentiating Controls on Carbonate-Evaporite Systems*', Annual Meeting, AAPG, Salt Lake City, UT (2003)

Co-organized and co-chaired SEPM session '*Basin-Scale Fluid Flow and Diagenesis*', Annual Meeting, AAPG, Houston, TX (2002)

Member of Technical Program Committee, 11th Bathurst Carbonate Meeting, Cambridge, UK (1999)

Member of Geological Society of America (GSA) Joint Technical Program Committee (1999)

Co-organized and co-leader of University-Wide Research Expedition (2 weeks) '*The Cambrian Radiation*' Great Basin, USA (1999)

Co-organized and co-chaired SEPM session '*Carbonate Chemostratigraphy as a Chronostratigraphic, Paleoenvironmental, and Exploration Tool*', Annual Meeting, AAPG Salt Lake, UT (1998)

Co-organized and co-chaired SEPM session '*Cycle & Sequence Stratigraphy*', Annual Meeting, AAPG San Diego, CA (1996)

Co-organized and co-leader of AAPG/SEPM field trip '*Genetic Stratigraphy of Middle Cambrian Cyclic Carbonates of the Great Basin*' (1996)

Co-organized and co-chaired SEPM/AAPG session '*Basin-Wide Fluid Flow Controls on Diagenetic Patterns*', Annual Meeting, AAPG, Houston, TX (1995)

Co-organized and co-convened SEPM Research Conference '*Basinwide Diagenetic Patterns: Petrologic, Geochemical and Hydrologic Considerations*', Lake of the Ozarks, Missouri, (1994)

- Co-organized and co-chaired session '*Application of the Isotopic and Trace Element Composition of Pore Fluids to Studies of Carbonate Diagenesis*', Annual Meeting, AAPG, New Orleans, LA, (1993)

- Co-convened the National Conference of the Pan-American Current Research on Fluid Inclusions (PACROFI), Lake Arrowhead, CA, (1992)

Mentoring of Graduate Students and Postdoctoral Scholars (excluding 23 undergraduate student mentees)

Post-doctoral scholars

- Jitao Chen (2014-2017), assistant professor (offer) at the Nanjing Institute of Geology & Paleontology
- Corinne Wong (2013-2015), now an assistant professor at Boston College
- Carina Colombi (2010—2012), now a CONICET professor, Univ. of San Juan, Argentina
- Javier Martin-Chivelet (2004-2006), now a full professor at Universidad Complutense, Madrid, Spain

Ph.D. & M.S. students

- Barbara Wortham, Ph.D. (2016—)
- Julie Griffin, Ph.D. (2014—)
- Neil Griffis, Ph.D. (2014—)
- Jon Richey, Ph.D. (2014—)
- Amanda Porter, Ph.D. (2014—), Univ. College Dublin, co-advised by Prof. Jenny McElwain
- Wanlu Fu, Ph.D. (2012—2016) Peking University, co-advised by Dayong Jiang
- Galen Griggs, M.S. (2013—2016)
- Rawan Alasad, M.S. (2012—2015)
- Laura Santare, M.S. (2011— 2013)
- Julie Griffin, M.S. (2011—2014)

- Erik Gulbranson, Ph.D. (2006—2011), visiting assistant professor Univ. of Wisconsin, Milwaukee
- Jessica Oster, Ph.D. (2004—2010), assistant professor, Vanderbilt University
- Amelia Robinson, Ph.D. (2004—2010), research scientist, Exxon-Mobil Science & Technology
- Lauren Greene-Martin, M.S. (2008—2010), Apache Petroleum
- Mike Eros, M.S. (2006—2010), Exxon-Mobil Science & Technology
- James Bishop, Ph.D. (2004—2008), senior scientist, Chevron Energy Technology Co.
- Liselle Batt, Ph.D. (2003-2007) University of Idaho, co-advised by Peter Isaacson
- Sarah Santee, M.S. (2004—2006)
- Kelley Moore, M.S. (2000—2002)
- Neil Tabor, Ph.D. (1998—2002), full professor, Southern Methodist University
- Neil Tabor, M.S. (1996-1998)
- Pauline Deutz, Ph.D. (1992-1998), Senior Lecturer, Univ. of Hull, Cottingham, UK
- Christoph Lehmann, Ph.D. (1991—1997), Senior carbonate sedimentologist, British Petroleum
- Ann Stefani, M.S. (1991-1994), ESRI

PEER REVIEWED PUBLICATIONS

Citations & h-index: Google Scholar (4558; 39); Web of Science (2492; HI of 32)

In Revision/Review

1. Porter, A.S., Yiotis, C., Montañez, I.P., and McElwain, J.C., in revision, Stable carbon isotopes of early diverging C3 plants exposed to a range of atmospheric CO₂:O₂ ratios show phylogenetic trend. *Geochimica et Cosmochimica Acta*
2. Montañez, I.P. and Crossey L.J., in review, Diagenesis. *Encyclopedia of Geochemistry*. Springer.
3. Li, Y-X, Ma, L., Kodama, K., and Montañez, I.P., in review, Orbitally driven cyclic variations of redox conditions during Oceanic Anoxic Event 2 (OAE2). *Earth and Planetary Science Letters*.
4. Griffis, N.J., Mundil, R., Montañez, I.P., in review, Testing the limits of stratigraphic frameworks built using *in-situ* vs CA-TIMS techniques: A case study from the Parana Basin, Brazil. *Bull. Geol. Soc. Amer.*

2017

5. Li, Y-X, Montañez, I.P., Liu, Z., and Ma, L., 2017, Astronomical constraints on global carbon-cycle perturbation during Oceanic Anoxic Event 2 (OAE2). *Earth and Planetary Science Letters*.
6. Wortham, B.E., Wong, C.I., McGee, D., Rasbury, E.T., Silva, L.C.R., and Montañez, I.P., 2017, Potential decoupling between the regional monsoon intensity and local moisture conditions during last millennium in central Brazil. *Earth and Planetary Science Letters*.
7. McElwain, J.C., Montañez, I.P., White, J.D., Wilson, J., Yiotis, H., and Lawson, T., 2017, Reply to Comment on ‘Was atmospheric CO₂ capped at 1000 ppm over the past 300 million years?’. *Palaeogeography, Palaeoclimatology, Palaeoecology*. v. 451.

2016

8. Montañez, I.P., McElwain, J.C., Poulsen, C.J., White, J., DiMichele, W.A., Wilson, J.A., Griggs, G., Hren, M., 2016, Climate, $p\text{CO}_2$ and terrestrial carbon cycle linkages during Late Palaeozoic glacial-interglacial cycles. *Nature Geoscience* 9, 824–828, doi:10.1038/ngeo2822.
9. Fu, W., Jiang, D., Montañez, I.P., Meyers, S., and Motani, R., 2016, Eccentricity paced carbon cycling in the Early Triassic and linkage to the evolution of marine reptiles. *Scientific Reports* (Nature Publishing Group) 0.1038/srep27793.
10. Wong, C.I., Potter, G.L., Montañez, I.P., Otto-Bliesner, B.L., Behling, P., and Oster, J.L., 2016, Why past warmings were associated with dry conditions over the far western United States. *Geophysical Research Letters*, v. 43, doi:10.1002/2016GL068389
11. Montañez, I.P., 2016, A Late Paleozoic climate window of opportunity, *Proceedings of the National Academy of Sciences*, v. 113, p. 2334-2336.
12. Michel, L.A., Tabor, N.J., Montañez, I.P., Schmitz, M., and Davydov, V., 2016a, Reply to Discussion on ‘Chronostratigraphy and paleoclimatology of the Lodève basin, France: Evidence for a pan-tropical aridification at the close of the Carboniferous’. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 441, p. 1000-1004.
13. McElwain, J.C., Montañez, I.P., White, J.D., Wilson, J., Yiotis, H., and Lawson, T., 2016, Was atmospheric CO_2 capped at 1000 ppm over the past 300 million years? *Palaeogeography, Palaeoclimatology, Palaeoecology*. v. 441. p. 653-658.
14. Chen, J., Montañez, I.P., Yuping Q., Xiangdong, W., Qiulai W., and Wei L., 2016, Coupled sedimentary and carbon isotope records of late Mississippian platform-to-slope successions from South China: Insight into $\delta^{13}\text{C}$ chemostratigraphy. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 448, p. 162-178.
15. Michel, L.A., Tabor, N.J., and Montañez, I.P., 2016b, Paleosol diagenesis and its deep-time paleoenvironmental implications, Pennsylvanian-Permian Lodeve Basin, France. *Journal of Sedimentary Research*, v. 86, p. 813-829.
16. Glassley, W., Crossey, L.J., and Montañez, I.P. 2016, Fluid-rock interaction. *Encyclopedia of Geochemistry*. Springer.

2015

17. Larsen, L.G., Hajek, E., Maher, K., Paola, C., Merritts, D., Bralower, T., Montañez, I., Wing, S., Snyder, N., Hochella, M., Kump, L.R., and Person, M., 2015, Taking the pulse of the Earth's surface systems. *EOS*, <https://eos.org/opinions>.
18. Gulbranson, E.L, Montañez, I.P., Tabor, N.J., and Limarino, C.O., 2015, Late Pennsylvanian aridification on the southwestern margin of Gondwana (Paganzo Basin, NW Argentina): an indication of global climate perturbation? *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 417, p. 220-235.
19. Griffin, J.M, Montañez, I.P., Matthews, J.A., Bates, S., and Lyons, T., 2015, A refined extraction—conversion- $\delta^{18}\text{O}$ analysis protocol for conodont bioapatite. *Chemical Geology*, v. 6, p. 11-20.
20. Wilson, J.P., White, J.D., DiMichele, W.A., Hren, M.T., Poulsen, C.J., McElwain, J.C., and Montañez, I.P., 2015, Reconstructing Extinct Plant Water Use for Understanding Vegetation-

Climate Feedbacks: Methods, Synthesis, and a Case Study Using the Paleozoic Era Medullosan “Seed Ferns”. In P.D. Polly, J.J. Head, and D.L. Fox (eds.), *Earth-Life Transitions: Paleobiology in the Context of Earth System Evolution*. The Paleontological Society Papers 21. Yale Press, New Haven, CT.

21. Falcon-Lang, H.J., Lucas, S.G., Kerp, H., Krainer, K., Montañez, I.P., Vachard, D., Chaney, D.S., Elrick, S.D., Contreras, D.L., Kurzawe, F., DiMichele, W.A., Looy, C.V., 2015, Early Permian (Asselian) mangrove vegetation from a seasonally dry coast in western equatorial Pangaea: Palaeoecology and evolutionary significance. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 433, p. 158-173.
22. Stüeken, E. E., Buick, R., Catling, D., Foriel, J., Kah, L.C., Knoll, A.H. Machel, H.G., Montañez, I.P., Poulton, S.W., and Wing, B.A., 2015, Deep-time trends in selenium isotopic geochemistry support secular redox changes in the ocean and atmosphere. *Geochimica et Cosmochimica Acta*, v. 162, p. 109-125.
23. Oster, J.L., Montañez, I.P., Wong, C.I., Santare, L., Sharp, W., and Cooper, K., 2015, A multi-proxy stalagmite reconstruction of climate in the Sierra Nevada during the last deglaciation. *Quaternary Science Reviews*, v. 127, p. 199-214.
24. Gulbranson, E., Ciccioli, I.P., Montañez, I.P., Marensi, S., Limarino, C.O., Schmitz, M.D., and Davydov, V.I., 2015, The Talampaya Formation and the Permo-Triassic boundary in northwestern Argentina. *Journal of South American Earth Sciences*, v. 63, p. 310-322.
25. Michel, L.A., Tabor, N.J., Montañez, I.P., Schmitz, M., and Davydov, V., 2016, Chronostratigraphy and paleoclimatology of the Lodève basin, France: Evidence for a pan-tropical aridification at the close of the Carboniferous. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 430, p. 118-131.

2014

26. Gulbranson, E.L., Isbell, J.L., Montañez, I.P., Limarino, C.O., Marensi, S.A., Meyer, K. and Hull, C., 2014, Reassessment of mid-Carboniferous glacial extent in southwestern Gondwana (Rio Blanco Basin, Argentina) inferred from paleo-mass transport of diamictites. *Gondwana Research* v. 25, p. 1369-1379.
27. Chen, Z-Q, Joachimski, M., Montañez, I.P., and Isbell, J., 2014, Editorial: Deep-time climatic and environmental extremes and ecosystem response. *Gondwana Research* v. 25, p. 1289-1293.
28. Bishop, J.W., Osleger, D.A., Montañez, I.P., and Sumner, D.Y., 2014, Meteoric Diagenesis and fluid-rock interaction in the Middle Permian Capitan backreef: Yates Formation, Slaughter Canyon, New Mexico, *Bulletin of the American Association of Petroleum Geologists*. doi: 10.1306/05201311158
29. Oster, J., Montañez, I.P., Mertz-Kraus, R., Sharp, W.D., Stock, G.M., Spero, H.J., Tinsely, J., and Zachos, J.C., 2014, Millennial-scale variations in western Sierra Nevada precipitation during the last glacial cycle MIS 3/4 transition. *Quaternary Research*, v. 82, p. 236-248.
30. Khodjanyazova, R.R., Davydov V.I., Montañez, I.P., and Schmitz, M.D., 2014, Cyclic recurrence of the Pennsylvanian fusulinid assemblages in the Donets Basin (Ukraine) in response to eustatic sea level fluctuations. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 396, p. 41-61.
31. Stone P., Stevens, C.H., Belasky, P., Montañez, I.P., Martin, L.G., Wardlaw, B.R., Sandberg, C.A., Wan, E., Olson, H.A., and Priest, S.S., 2014, Geologic Map and Upper Paleozoic Stratigraphy of

Marble Canyon Area, Cottonwood Canyon Quadrangle, Death Valley National Park, Inyo Co., California. *USGS Scientific Investigations Map 3298 & Pamphlet*, 63 pages and Quadrangle Map.

2013

32. Montañez, I.P., 2013, Modern soil system constraints on reconstructing deep-time atmospheric CO₂. *Geochimica et Cosmochimica*, v. 101, p. 57-75.
33. Montañez, I.P. and Isaacson, P.E., 2013, A 'sedimentary record' of opportunities. *The Sedimentary Record*, v. 11, p. 4-8.
34. Montañez, I.P., and Poulsen, C.J., 2013, The Late Paleozoic Ice Age: An evolving paradigm. *Annual Reviews in Earth and Planetary Sciences*, v. 41, p. 629-656.
35. Montañez, I.P., and Cecil, C.B., 2013, Paleoenvironmental Clues Archived in Non-Marine Pennsylvanian-lower Permian Limestones of the Central Appalachian Basin, USA. *International Journal of Coal Geology*, v. 119, p. 41-55.
36. Tabor, N.J., DiMichele, W.A., Montañez, I.P., and Chaney, D.S., 2013, Late Paleozoic continental warming of a cold tropical basin and floristic change in western Pangea. *International Journal of Coal Geology*, v. 119, p. 177-186.

2012

37. Eros, J.M., Montañez, I.P., Osleger, D.A., Davydov, V. I., Nemyrovska, T., Poletaev, V., and Zhykalyak, M.V., 2012a, Sequence Stratigraphy and Onlap History, Donets Basin, Ukraine: Insight into Late Paleozoic Ice Age dynamics. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 313-314, p. 1-25.
38. Republished in a virtual issue of PPP on Paleoclimatology Highlights (10 papers selected)
39. NRC Committee on New Research Opportunities in the Earth Sciences at the National Science Foundation (Lay, T., Bender, M.L., Carbotte, S., Farley, K.A., Larson, K.M., Lyons, T., Manga, M., Mao, H-K, Montañez, I.P., Montgomery, D.R., Olsen, P.E., Olson, P.L., Wiberg, P.L., and Zhang, D.), 2012, New Research Opportunities in the Earth Sciences, National Academies Press, 158 pp.
40. Martin, L., Montañez, I.P., and Bishop, J., 2012, Carboniferous sequence stratigraphy and sea-level history of the Bird Spring platform, Southern Great Basin, USA: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 329, p. 64-82.
41. Horton, D.E., Poulsen, C.J., Montañez, I.P., and DiMichele, W.A., 2012, Eccentricity-paced late Paleozoic climate change and its role in cyclostratigraphy: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 331, p. 150-161.
42. Republished in a virtual issue of PPP on Paleoclimatology Highlights (10 papers selected)
43. Brand, U., Jiang, G., Azmy, K., Bishop, J. and Montañez, I.P., 2012, Diagenetic evaluation of a Pennsylvanian (GSSP) carbonate succession (Bird Spring Formation, Arrow Canyon, Nevada, U.S.A.) – 1: brachiopods and whole-rock comparison. *Chemical Geology*, v. 308-309, p. 26-39.

44. Oster, J.L., Montañez, I.P., Kelly, N.P., 2012, Response of a modern cave system to large seasonal precipitation variability: *Geochimica et Cosmochimica Acta*, v. 91, p. 92-108.
45. Eros, J.M., Montañez, I.P., Osleger, D.A., Davydov, V. I., Nemyrovska, T., Poletaev, V., and Zhykalyak, M.V., 2012b, Reply to Comment on ‘Sequence Stratigraphy and Onlap History, Donets Basin, Ukraine: Insight into Late Paleozoic Ice Age dynamics’. *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 363-364, p. 187-191.

2011

46. Martinez, R.N., Sereno, P.C., Alcobar, O.A., Colombi, C.E., Renne, P.R., Montañez, I.P., and Currie, B.S., 2011, A basal dinosaur from the dawn of the dinosaur era in southwestern Pangaea: *Science*, v. 331, p. 206-210.
47. Colombi, C. E., Montañez, I.P., and Parrish, J.T., 2011, Environmental controls on C and N isotope variability in an Upper Triassic paleofloristic assemblage, Ischigualasto Formation, Northwestern Argentina: *Revista de la Asociación Geológica Argentina*, v. 14, p. 39-50.
48. NRC Committee on the Importance of Deep-Time Geologic Records for Understanding Climate Change Impacts (Montañez, I.P. and 10 others), 2011, *Understanding Earth’s Deep Past: Lessons for our Climate Future*: National Academies Press, 194 pp.
49. Nemyrovska, T.I., Wagner, R.H., Winker, C.F., and Montañez, I.P., 2011, Conodont faunas across the mid-Carboniferous boundary at La Lastra (Palentian Zone Cantabrian Mountains, northwest Spain): *Geologica Scripta*, v. 8. P. 29-64.
50. Gulbranson, E.L, Montañez, I.P., and Tabor, N.J., 2011a, Determining ancient humidity and floral provinces from paleosols: A climate proxy derived from a pedogenic energy model and modern soil geochemistry: *Journal of Geology*, v. 119, p. 559-573.
51. Gulbranson, E.L, Tabor, N.J., and Montañez, I.P., 2011b, Response of soil CO₂ to variations in soil moisture content recorded in paleosol goethite: *Geochimica et Cosmochimica Acta*, v. 75, p. 7099-7116.

2010

52. Bishop, J.W., Montañez, I.P., Osleger, D.A., 2010, Dynamic Carboniferous climate change, Arrow Canyon, Nevada: *Geosphere*, v. 6, p. 1-34.
53. Gulbranson, E.L, Montañez, I.P., Schmitz, M.D., Limarino, C.O., Isbell, J.L., Marensi, S., and Crowley, J.L., 2010, High-resolution U-Pb calibration of Carboniferous glacial deposits, Río Blanco and Paganzo basins, Northwest Argentina: *Geological Society of America Bulletin*, v. 122, p. 1480-1498.
54. DiMichele, W.A., Cecil, B., Montañez, I.P., and Falcon-Lang, H., 2010, Cyclic changes in Pennsylvanian paleoclimate and effects on floristic dynamics in tropical Pangaea: *International Journal of Coal Geology*, v. 83, p. 329-344.
55. Oster, J.L., Montañez, I.P., Guilderson, T.P., and Sharp, W.D., 2010, Modeling speleothem $\delta^{13}\text{C}$ variability in central Sierra Nevada cave using ^{14}C and $^{87}\text{Sr}/^{86}\text{Sr}$: *Geochimica et Cosmochimica Acta*, v. 74, p. 5228-5242.

2009

56. Currie, B. S., C. E. Colombi, N. J. Tabor, T. C. Shipman, I. P. Montañez, 2009, Stratigraphy and architecture of the Upper Triassic Ischigualasto Formation, Ischigualasto Provincial Park, San Juan, Argentina: *Journal of South American Earth Sciences*, v. 26, p.74-87.
57. Bishop, J.W., Montañez, I.P., Gulbranson, E.L., and Brenckle, P.L., 2009, The Onset of mid-Carboniferous glacio-eustasy: Sedimentologic and diagenetic constraints, Arrow Canyon, NV: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 276, p. 217-243.
58. DiMichele, W.A., Montañez, I.P., Poulsen, C.J., and Tabor, N.J., 2009, Vegetation-climate feedbacks and regime shifts in the Late Paleozoic ice age earth: *Geobiology*, v. 7, p. 200-226.
59. Oster, J.L., Montañez, I.P., Sharp, W.D., and Cooper, K.M., 2009, Late Pleistocene California droughts during deglaciation and Arctic warming: *Earth and Planetary Science Letters*, v. 288, p.434-443.

2008

60. Batt, L.S., Isaacson, P., Pope, M.C., Montañez, I.P., and Abplanalp, J., 2008, Late Mississippian Antler Foreland Basin Carbonates and Siliciclastics, East-Central Idaho and Southwest Montana: Distinguishing Tectonic and Eustatic Sea Level Change, in Lukasik, J., and Simo, J.A. (Eds) Controls on Carbonate Platforms and Reef Development: *SEPM Special Publication No. 89*, pp. 147-170.
61. Frank, T.D., Birgenheier, L.P., Montañez, I.P., Fielding, C.R., and Rygel, M.C., 2008, Late Paleozoic climate dynamics revealed by comparison of ice-proximal stratigraphic and ice-distal isotopic records in Fielding, C.R., Frank, T.D., and Isbell, J.L., (Eds.), Resolving the Late Paleozoic Ice Age in Time and Space: *Geological Society of America Special Paper 441*, pp. 121-134.
62. Tabor, N.J., Montañez, I.P., Scotese, C., Poulsen, C.J., and Mack, G.H., 2008, Paleosol Archives of Environmental and Climatic History in paleotropical Western Euramerica during the latest Pennsylvanian through Early Permian, in Fielding, C.R., Frank, T.D., and Isbell, J.L., (Eds.), Resolving the Late Paleozoic Ice Age in Time and Space: *Geological Society of America Special Paper 441*, pp. 291-303.
63. Li, Yong-Xiang, Bralower, T.J., Montañez, I.P., Osleger, D.A., Arthur, M.A., Bice, D.M., Herbert, T.D., Erba, E., Premoli Silva, I., 2008, Toward an orbital chronology for the early Aptian Oceanic Anoxic Event (OAE1a, ~120 Ma): *Earth and Planetary Science Letters*, v. 271, p. 88–100.
64. Gulbranson, E., Limarino, C.O., Marensi, S., Montañez, I.P., Tabor, N.J., Davydov, V.I., and Colombi, C., 2008, Glacial deposits in the Rio Del Peñon Formatino, Late Carboniferous, Rio Blanco Basin, northwestern Argentina: *Latin American Journal of Sedimentology and Basin Analysis*, v. 15, p. 129-142.

2007

65. Montañez, I.P., Tabor, N.J., Niemeier, D., DiMichele, W.A., Frank, T.D., Fielding, C.R. Isbell, J.L., Birgenheier, L.P., & Rygel, M.C., 2007, CO₂-forced Climate Instability and Linkages to Tropical Vegetation during Late Paleozoic Deglaciation: *Science*, v. 315, (no. 5808), pp. 87-91.
66. Tabor, N.J., Montañez, I.P., Steiner, M., and Schwindt, D., 2007, The δ¹³C values of Permo-Triassic carbonates from South Africa reflect a stinking, sulfurous swamp, not atmospheric conditions: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 22, p. 370-381.

67. Katz, D.A., Buoniconti, M.R., Montañez, I.P., Swart, P.K., Eberli, G.P., and Smith, L.B., 2007, Timing and local perturbations of Lower Mississippian $\delta^{13}\text{C}_{\text{carb}}$ excursions in the Madison Limestone, Montana and Wyoming: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 256, p. 231-253.
68. Knott, J.R., Sarna-Wojcicki, A.M., Montañez, I.P., Wan, E., 2007, Differentiating the Bishop Ash bed and related tephra layers by similarity coefficients calculated from minor and trace element analysis of volcanic glass shards by solution inductively coupled plasma-mass spectrometry: *Quaternary International*, v. 166, p. 79-86
69. Batt, L.S., Montañez, I.P., Isaacson, P., Pope, M.C., Butts, S.H., and Abplanalp, J., 2007, Multi-carbonate component reconstruction of mid-Carboniferous (Chesterian) seawater $\delta^{13}\text{C}$: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 256, p. 298-318.
70. Poulsen, C.J., Pollard, D., Montañez, I.P., and Rowley, D., 2007, Late Paleozoic tropical climate response to Gondwanan deglaciation: *Geology*, v. 35, p. 771-774.
71. Isaacson, P.E., Grader, G.W., Pope, M.C., Montañez, I.P., Butts, S.H., Batt, L.S., Abplanalp, J., 2007, Devonian-Mississippian Antler foreland basin carbonates in Idaho: significant subsidence and eustasy events: *Mountain Geologist*, v. 44, p. 119-140.
72. Grader, G.W., Díaz-Martínez, E., Davydov, V., Montañez, I., Tait, J., and Isaacson, P., 2007, Late Paleozoic stratigraphic framework in Bolivia: constraints from the warm water Cuevo Megasequence, in: Díaz-Martínez E., Rábano, I. (Eds.) *Palaeontology and Stratigraphy of Latin America. Cuadernos del Museo Geominero* 8, p. 181-188.

2006

73. Montañez, I.P., and Soreghan, G.S., 2006, Earth's fickle climate: Lessons learned from deep-time ice ages. *Geotimes*, v. 51, p. 24-27.
74. Tabor, N.J., Montañez, I.P., Kelso, K. A., Currie, B., and Shipman, T., 2006, A Late Triassic soil catena: landscape and climate controls on paleosol morphology and chemistry across the Carnian-age Ischigualasto-Villa Union Basin, northwestern Argentina, in Tanner, J. Ed. *Paleoenvironmental Record and Applications of Calcretes and Palustrine Carbonates: Geological Society of America Spec. Paper* No. 416.

2005

75. Cole, J.M., Rasbury, E.T., Hanson, G.N., Montañez, I.P., and Pedone, V.A., 2005, Using U-Pb ages of Miocene tufa for correlation in a terrestrial succession, Barstow Formation, California: *Geological Society of America Bulletin*, v. 117, p. 276-287.
76. Tabor, N.J., and Montañez, I.P., 2005, Oxygen and hydrogen isotope compositions of Permian pedogenic phyllosilicates: Development of modern surface domain arrays and implications for paleotemperature reconstructions: *Palaeogeography, Palaeoclimatology, and Palaeoecology*, v. 223, p. 127-146.

2004

77. Tabor, N.J., Montañez, I.P., Zierenberg, R., and Currie, B., 2004a, Mineralogic, chemical, and stable isotope compositions of a basalt-hosted fossil soil, Middle Triassic Ischigualasto

formation, northwestern Argentina: *Geological Society of America Bulletin*, v. 116, p. 1280-1293.

78. Vidic, N., and Montañez, I.P., 2004, Systematic interglacial-glacial fluctuations in C₃:C₄ flora of the Chinese Loess Plateau as recorded by the δ¹³C composition of organic matter: *Geology*, v. 32, p. 337-340.
79. Tabor, N.J., Yapp, C.J., Montañez, I.P., 2004b, Goethite, calcite, and organic matter from Permian and Triassic soils: carbon isotopes and atmospheric CO₂ concentrations: *Geochemica et Cosmochimica Acta*, v. 68, p. 1503-1517.
80. Royer, D.L., Berner, R.A., Montañez, I.P., Tabor, N.J., Beerling, D.J., 2004, CO₂ as a primary driver of Phanerozoic climate: *GSA Today*, v. 14, p. 3-7.
81. Tabor, N.J., and Montañez, I.P., 2004, Permo-Pennsylvanian alluvial paleosols (north-central Texas): High-resolution proxy records of the evolution of early Pangean paleoclimate: *Sedimentology*, v. 51, p. 851-884.
82. Cole, J.M., Rasbury, E.T., Montañez, I.P., Pedone, V.A., Lanzirotti, A., and Hanson, G.N., 2004, Petrographic and trace element analyses of uranium- and gold-bearing calcite tufa, Miocene Barstow Formation, California: *Sedimentology*, v. 51, p. 433-453.
83. Royer, D. L., R. A. Berner, I. P. Montañez, N. J. Tabor, D. J. Beerling, 2004, CO₂ as a primary driver of Phanerozoic climate. *Reply. GSA Today*, v. 14 (7), p. 18-19.

2003

84. Montañez, I. P. Spotlight Article - It's all about dating: From Nexters to climate change. *Palaios* 18(4-5):299-301.

2002

85. Deutz, P., Montañez, I.P., Monger, H.C., 2002, Morphologies and stable and radiogenic isotope compositions of pedogenic carbonates in Late Quaternary relict and buried soils, New Mexico: an integrated record of pedogenic overprinting: *Journal of Sedimentary Research*, v. 72, p. 809-822.
86. Tabor, N.J., Montañez, I.P., Southard, R. J., 2002, Mineralogical and stable isotopic analysis of pedogenic proxies in Permo-Pennsylvanian paleosols: Implications for paleoclimate & paleoatmospheric circulation: *Geochemica et Cosmochimica Acta*, v. 66, p. 3093-3107.
87. Tabor, N.J., and Montañez, I.P., 2002, Shifts in Late Paleozoic atmospheric circulation over western equatorial Pangea: Insights from pedogenic mineral δ¹⁸O compositions: *Geology*, v. 30, p. 1127-1130.
88. Montañez, I.P., 2002, Biological skeletal carbonate records changes in major-ion chemistry of paleo-oceans: *Proceedings of the National Academy of Sciences*, v. 99, p. 15852-15854.

2001

89. Deutz, P., Montañez, I.P., Monger, H.C., and Morrison, J., 2001, Morphology and isotope heterogeneity of Late Quaternary pedogenic carbonates: Implications for paleosol carbonates as paleoenvironmental proxies: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 166, p. 293-317.

90. Dickson, J.A.D., Montañez, I.P., and Saller, A.H., 2001, Pennsylvanian to Permian cyclic platform carbonates, Central Basin Platform, west Texas: Diagenetic and isotopic studies: *Journal of Sedimentary Research*, v. 71, p. 372-379.
91. Becker, M.L., Cole, J.M., Rasbury, E.T., Pedone, V.A., Montañez, I.P., and Hanson, G.N., 2001, Cyclic variations of Uranium and $d^{18}O$ incorporation in tufa from the Miocene Barstow Formation, Rainbow Basin, Mojave, California: *Geology*, v. 29, p. 139-142.
92. Renne, P.R., Sharp, W.D., Montañez, I.P., Becker, T.A., and Zierenberg, R.A., 2001, $^{40}Ar/^{39}Ar$ dating of Late Permian evaporites, southeastern New Mexico, USA: *Earth and Planetary Science Letters* 193 (3/4): 539-547.

2000

93. Montañez, I.P., Osleger, D. A., Banner, J.L., Mack, L., and Musgrove, M.L., 2000, Evolution of the Sr and C isotope composition of Cambrian oceans: *GSA Today*, v. 10 (5), p. 1-5.
94. Lehmann, C., Osleger, D.A., and Montañez, I.P., 2000, Sequence stratigraphy of Lower Cretaceous (Barremian-Albian) carbonate platforms of northeastern Mexico: regional and global correlations: *Journal of Sedimentary Research*, v. 70 (2), p. 373-391.
95. Martin-Chivelet, J., Osleger, D.A., and Montañez, I.P., 2000, Modified Fisher plots as graphical tools for evaluating thickness patterns in stratigraphic successions: *Journal of Geological Education*, v. 48 p. 179-183.
96. Lehmann, C.P., Osleger, D.A., and Montañez, I.P., 2000, *Reply*: Evolution of Cupido and Coahuila carbonate platforms, Lower Cretaceous, northeastern Mexico: *Geological Society of America Bulletin*, v. 112, p. 799-800.

1999

97. Lehmann, C., Osleger, D.A., Montañez, I.P., and Sliter, W.V., Arnaud-Vanneau, A., and Banner, J.L., 1999, Evolution of Cupido and Coahuila carbonate platforms, early Cretaceous, northeastern Mexico: *Geological Society of America Bulletin*, v. 111, p. 1010-1029.
98. Ekart, D.D., Cerling, T.E., Montañez, I.P., and Tabor, N.J., 1999, A 400 million year carbon isotope record of pedogenic carbonate: Implications for paleoatmospheric carbon dioxide: *American Journal of Science*, v. 299, p. 805-827.

1998

99. Lehmann, C., Osleger, D.A., and Montañez, I.P., 1998, Controls on cyclostratigraphy of Lower Cretaceous carbonates and evaporites, Cupido and Coahuila platforms, northeastern Mexico: *Journal of Sedimentary Research*, v. 68, p. 1109-1130.

1997

100. Montañez, I. P., 1997a, Application of cathodoluminescent cement stratigraphy for delineating regional diagenesis and fluid migration associated with Mississippi Valley-type mineralization in the southern Appalachians, in Sangster, D., Leach, D., Shelton, K., Gregg, J.M., (eds.), Carbonate-Hosted Lead-Zinc Deposits: *Society of Economic Geologists Special Publication*, p. 432-447.

101. Montañez, I. P., 1997b, Secondary porosity and late diagenetic cements of the Upper Knox Group, central Tennessee region: A temporal and spatial history of fluid flow conduit development within the Knox regional aquifer, *in* Montañez, I.P., Gregg, J.M., and Shelton, K. (eds.), Basinwide Fluid Flow and Associated Diagenetic Patterns: Integrated Petrologic, Geochemical and Hydrologic Considerations: *SEPM Special Publication No. 57*, p. 101-117.
102. Montañez, I. P., Gregg, J.M., and Shelton, K., (Eds.) 1997c, Basinwide Fluid Flow and Associated Diagenetic Patterns: Integrated Petrologic, Geochemical and Hydrologic Considerations: *SEPM Special Publication No. 57*, 289 pp.

1996

103. Osleger, D. A., and Montañez, I. P., 1996, Platform-to-basin architecture of a sequence boundary interval developed within a mixed carbonate-siliciclastic system, Middle Cambrian, southern Great Basin: *Sedimentology*, v. 43 (N2), p. 197-217.
104. Montañez, I. P., and Osleger, D. A., 1996, Contrasting sequence boundary zones developed within cyclic carbonates of the Bonanza King Formation, Middle to Late Cambrian, southern Great Basin, Chapter 2, *in* Witzke, B.J., Ludvigson, G.A., and Day, J.E., eds., Paleozoic Sequence Stratigraphy: Views from the North American Craton: *Geological Society of America Special Paper 306*, p. 7-22.
105. Montañez, I.P., Banner, J.L., Osleger, D. A., Borg, L. E, and Bosserman, P. J., 1996, Integrated Sr isotope variations and sea-level history derived from Middle to Upper Cambrian platform carbonates: Implications for the evolution of Cambrian seawater $^{87}\text{Sr}/^{86}\text{Sr}$ values: *Geology*, p. 917-920.

1994

106. Montañez, I. P., 1994, Late diagenetic dolomitization of Lower Ordovician Upper Knox Carbonates: A record of the hydrodynamic evolution of the southern Appalachian Basin: *American Association of Petroleum Geologists Bulletin*, v. 78(8), p. 1210-1239.

1993

107. Kupecz, J. A., Montañez, I. P., Gao, G., 1993, Recrystallization of dolomite with time, Chapter 14, *in* Rezak, R. and Lavoie, D. L., eds., Carbonate Microfabrics: *Frontiers in Sedimentary Geology*: New York, Springer-Verlag, p. 187-194.
108. Montañez, I. P., and Osleger, D. A., 1993, Parasequence stacking patterns, third-order accommodation events and sequence stratigraphy of Middle to Upper Cambrian platform carbonates, Bonanza King Formation, southern Great Basin, Chapter 12, *in* Loucks, R. G., and Sarg, F. R., eds., Carbonate Sequence Stratigraphy: Recent Developments and Applications: *AAPG Memoir No. 57*, pp. 305-326.
109. Sadler, P. M., Osleger, D. A., and Montañez, I. P., 1993, On the labelling, length and objective basis of Fischer plots: *Journal of Sedimentary Petrology*, v. 63, p. 360-368.

1992 & 1988

110. Montañez, I.P., and Read, J. F., 1992, Eustatic control on early dolomitization of cyclic peritidal carbonates: Evidence from the Early Ordovician Upper Knox Group, Appalachians: *Geological Society of America Bulletin*, v. 104, p. 872-886.

111. Montañez, I.P., and Read, J. F., 1992, Fluid-rock interaction history during stabilization of early dolomites of the Upper Knox Group (Early Ordovician), Appalachians: *Journal of Sedimentary Petrology*, v. 62, p. 753-778.
112. Montañez, I. P., 1992, Controls of eustasy and associated diagenesis on reservoir heterogeneity in Lower Ordovician, Upper Knox carbonates, Appalachians, in Candelaria, M. P., and Reed, C. A., eds., Paleokarst, Karst Related Diagenesis, and Reservoir Development: Examples from Ordovician-Devonian Age Strata of West Texas and the Mid-Continent: Permian Basin Section, *SEPM Special Publication No. 92-33*, p. 165-181.
113. Schedl, A., McCabe, C., Montañez, I.P., Fullagar, P., and Valley, J., 1992, Alleghenian regional diagenesis: a response to the migration of modified metamorphic fluids derived from beneath the Blue Ridge-Piedmont thrust sheet: *Journal of Geology*, v. 100, p. 339-352.
114. Mussman, W M., Montañez, I. P., and Read, J. F., 1988, Ordovician Knox paleokarst unconformity, Appalachians, Chapter 10, in James, N. and Choquette, P. Eds., *Paleokarst*: New York, Springer-Verlag, p. 211-228.

INTERNALLY REVIEWED PUBLICATIONS

1. Montañez, I. P., and Stefani, A. B., 1993, An overview of the factors contributing to the evolution and spatial distribution of reservoir properties in Knox cyclic carbonates, in Keller, D. R., and Reed, C.L., eds., Paleokarst, Karst-Related Diagenesis, Reservoir Development, and Exploration Concepts: Examples from the Paleozoic Section of the Southern Mid-Continent: *Permian Basin Section, SEPM Field Trip Guidebook 93-34*, p. 67-83.
2. Lehmann, C., Osleger, D.A., and Montañez, I.P., 1995, Evolution of the Coahuila carbonate platform (middle Cretaceous), northeastern Mexico: in R.K. Goldhammer and J.L. Wilson, eds., Middle Cretaceous Carbonate Geology of Northeast Mexico: *Amer. Assoc. Petrol. Geol. Guidebook*.
3. Osleger, D. A., Montañez, I.P., Martin-Chivelet, J., and Lehmann, C., 1996, Cycle and sequence stratigraphy of Middle to Upper Cambrian carbonates, Bonanza King Formation, southern Great Basin, in Abbott, P., and Cooper, J.D., eds, *American Association of Petroleum Geologists Field Conference Guide, Pacific Section AAPG GB 73*, p. 55-84.
4. Lehmann, C., Osleger, D. A., Montañez, I.P., Jaech, J., Stokstad, E., and Kwong, M., 1996, Lateral continuity of Middle Cambrian peritidal cycles, southern Nevada: Implications for their origin, in Abbott, P., and Cooper, J.D., Eds, *American Association of Petroleum Geologists Field Conference Guide, Pacific Section AAPG GB 73*, p. 85-90.
5. Montañez, I. P., Gregg, J.M., and Shelton, K.L., 1997, Editors Introduction, Basinwide Fluid Flow and Associated Diagenetic Patterns: Integrated Petrologic, Geochemical and Hydrologic Considerations: *SEPM Special Publication No. 57*.
6. Montañez, I.P., and Sumner, D.Y., 1998, Geoscience Highlights: Low-temperature isotope geochemistry: *Geotimes*, v. 43, p. 37-38.
7. Montañez, I.P., and Kaufman, J.A., 1999, Geoscience Highlights: Low-temperature geochemistry: *Geotimes*, v. 44, p. 28-29.
8. Deutz, P., Montañez, I.P., Monger, H.C., and Morrison, J., 2001, Derivation of a palaeoenvironmental record from pedogenic carbonates in buried and relict Quaternary soils, Rio

Grande Rift, New Mexico: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 171, p. 85-87.

9. Montañez, I.P., 2003, Spotlight Article- It's all about the dating: From nexters to climate change: *Palaios*, v. 18, p. 299-300.
10. Soreghan, G.S., Bralower, T.J., Chandler, M.A., Kiehl, J., Lyle, M., Lyons, T.W., Maples, C.G., Montañez, I.P., Otto-Bliesner, B.L., 2005, GeoSystems: Probing Earth's Deep-Time Climate & Linked Systems: *National Science Foundation sponsored Initiative Report*, Arlington, va, 35 p.
11. Grader, G., Diaz-Martinez, E., Davydov, V., Montañez, I.P., Tait, J., and Isaacson, P., 2007, Late Paleozoic Stratigraphic framework in Bolivia: Constraints from the warm water Cuevo Megasequence: *4th European Meeting on the Paleontology and Stratigraphy of Latin America, Cuadernos del Museo Geominero, n°8, Instituto Geologico y Minero de España, Madrid*, pp. 181-188
12. Montañez, I.P., Davydov, V.I., Poulsen, C., Schmitz, M., Schneider, J., and Tabor, N.J., 2006, Understanding climate change during the final stages of Late Paleozoic Gondwanan glaciation – an integrated data-model study: *Permophiles*, Issue 48 p. 25-26.
13. Soreghan, G.S. and Montañez, I.P., 2008, Preface – Special Issue on the Late Paleozoic Earth System: *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 268 p. 123-125.

ABSTRACTS

200+ abstracts presented at national and international meetings

GRANTS (2000 to present)

- National Science Foundation - Sedimentary Geology & Paleobiology Program Pending
EAR – \$299,872
'Late Paleozoic Glaciation-Climate Dynamics in West-Central Gondwana: Geochronologic, Sedimentologic, and Paleoclimate Insight, Paraná Basin, Brazil'

(Co-PI; collaborative with Roland Mundil, Berkeley Geochronology Center and John Isbell, Univ. of Wisconsin, Milwaukee)
- National Science Foundation - Sedimentary Geology & Paleobiology Program 3/2016-1/2019
EAR – \$179,785
'Collaborative Research: A Remarkable New Fossil Assemblage from the Burgess Shale at Marble Canyon, Kootenay National Park'

(Co-PI; collaborative with Robert Gaines, Pomona College)
- National Science Foundation - Catalyzing New International Collaborations Program 6/2015-5/2016
OISE-1444210 \$44,494 (UCD component)
'Initiating a US-Brazil Collaboration: An Integrated Approach to Resolving the late Paleozoic Ice Age in the Parana Basin, Brazil'
(collaborative with John Isbell, Univ. of Wisconsin)
- National Science Foundation – EAGER, Atmospheric Sciences Program 2/2014 – 1/2015
EAR141420079 — \$114,212
'Collaborative Research — Evaluating Fluid Inclusion Geochemistry of U-Th Dated Speleothems as a Tool for Resolving Paleoclimate Controversies in the American Southwest'
(collaborative with Kari Cooper, UCD, and Sujoy Mukhopadhyay, Harvard University)
- National Science Foundation – Earth-Life Transitions Track, SGP Program 1/2014 – 12/2018
EAR1338281 - \$488,908 (part of a \$1,200,000 collaborative grant) & international supplement (\$97,400)
'Collaborative Research - Earth-Life Transitions: Integrated Data-Model Analysis of CO₂-Climate-Vegetation Feedbacks in a Dynamic Paleo-Icehouse'
(collaborative with Chris Poulsen, Univ. Michigan; Joseph White, Baylor Univ., Jennifer McElwain, Univ. College Dublin; William DiMichele, Smithsonian Institution; Michael Hren, Univ. of CT)
- National Science Foundation – Sedimentary Geology & Paleobiology Program 9/2010 – 8/2015
EAR1024737 - \$365,858 & an international supplement (\$29,750)
'Accomplishment-based Renewal: 'Testing hypothesized CO₂ forcing of climate, glaciation & biotic change during the end Carboniferous'
- National Science Foundation – Division of Graduate Education 9/2011 - 8/2016
DGE 1069333 - \$1,250,000
'IGERT - Climate Change, Water and Society'
(Graham Fogg, PI & 19 faculty participants)

- National Science Foundation – Atmospheric Sciences - Paleoclimates 7/2010 – 6/2012
 ATM- 0823656 - \$411,187
 ‘Acquisition of an Excimer Laser, Quadrupole ICPMS and Microsampler for UC Davis’
 (collaborative with Howie Spero, Tessa Hill and Ann Russell, UCD)
- National Science Foundation - Paleoclimate Perspectives and Climate Change 9/2008-9/2011
 ATM0823656 – \$316,993
 ‘Collaborative Research: P2C2--Continental Response to Abrupt Climate Change Post 70 ka: An Integrated Isotopic and Trace Element Study of Sierra Nevada Speleothems’
 (collaborative with Kari Cooper, UCD & Warren Sharp, Berkeley Geochronology Lab)
- National Science Foundation - Office of International Science & Engineering 8/2008-7/2011
 OISE0826105 – \$75,000 (UCD component)
 ‘Collaborative IRES: Integrated Research & Educational Training of Geoscience Students in Deep-Time Paleoclimatology, Western South America’
 (collaborative with John Isbell and Margaret Fraiser, University of Wisconsin, Milwaukee)
- National Science Foundation - Sedimentary Geology & Paleobiology 5/2006 – 5/2010
 EAR0545654 – \$268,866 (IPM portion of a \$1,093,664 grant to 4 universities)
 ‘Collaborative Research: Understanding climate change during the final stages of Late Paleozoic Gondwanan Glaciation – An integrated Data-Model Study’
 (collaborative with Chris Poulsen, Univ. of Michigan, Neil Tabor, SMU, Mark Schmitz and Vladimir Davydov, Boise State Univ.)
- National Science Foundation - SGP & OISE 1/2007 – 12/2007
 EAR0650660 – \$50,417
 ‘Collaborative Research: Understanding climate change during the final stages of Late Paleozoic Gondwanan Glaciation – An integrated Data-Model Study – International Supplement’
- National Science Foundation – Opportunities for Enhancing Diversity in the Geosciences
 7/2005 to 10/2008 – \$98,839
 ‘TRACK 1 - Building an academic bridge for success: Increasing undergraduate diversity in the geosciences at UC Davis’
 (Co-PI with David Osleger, Dawn Sumner, Louise Kellogg, UC Davis)
- UC Davis Washington Program 9/2007 – 6/2008 \$2000
 ‘Unraveling the Biogeochemistry of a Fossil Forest: the Westphalian-Stephanian Transition in the Illinois Basin’
- National Science Foundation - Geology and Paleontology 01/2003 to 12/2005
 \$148,700
 ‘Collaborative Research: Distinguishing Regional Tectonic Global Eustatic, and ‘Isotopic’ Events in Chesterian Rocks of East-Central Idaho and Southwestern Montana’
 (collaborative with Mike Pope, Washington State Univ., and Peter Isaacson, Univ. of Idaho)

- National Science Foundation - Geology and Paleontology 08/2002 to 07/2005
 \$172,187
 ‘*Collaborative Research: Understanding Abrupt Climatic Disturbance in the Aptian and Albian (Mid-Cretaceous)*’
 (collaborative with David Osleger, UCD, and Tim Bralower, Penn State Univ.)
- National Science Foundation—Instrumentation & Facilities 07/2003
 \$315,025
Acquisition of an Isotope Ratio Mass Spectrometer System for the University of California, Davis
 (co-PI with Howie Spero and Robert Zierenberg, UC Davis)
- University of California, Bridge Grant 07/2002 to 06/2003
 Discretionary research funds - \$ 30,000
- University of California - Mexus Research Grant 07/2002 to 06/2003
 \$14,986
 ‘*Understanding Abrupt Climatic Disruption in the Cretaceous*’
 (collaborative with David Osleger, UC Davis)
- Universitywide Energy and Science Technology Research Grant 07/2002 to 06/2003
 \$39, 630
 ‘*Integrated Analysis of Organic Matter-Clay Mineral Relationships in Shales: Implications for Shale Diagenesis and Hydrocarbon Generation*’
 (collaborative with Tim Ginn, Civil & Environmental Engineering)
- National Geographic Society 8/2001 to 7/2003
 \$ 24,538
 ‘*The Southwestern Quadrant of the Pangean Megamonsoon: Ischigualasto Basin, Argentina*’
 (participant with P.I. Judy Parrish, Univ. of Arizona)
- National Science Foundation - Geology & Paleontology Program 1/2001 to 6/2002
 \$21,700
 ‘*Collaborative Research: Integrated Analysis of Permian Terrestrial Sediments and Paleosols Defining a High-Resolution Proxy for the Evolution of Western Equatorial Pangean Climate and Global Atmospheric pCO₂*’, REU Supplement
- National Science Foundation - Instrumentation & Instrument Development July 1999
 \$1,049,251
Acquisition of Instrumentation for Elemental and Isotopic Analysis: A Submission by a Consortium of University of California-Davis Faculty
 (4 faculty PIs: funding for an ICP-AES, ICP-MS, and a MC-ICP-MS)
- National Science Foundation - IGERT Program 1999 to 2004
 \$2,619,741
 ‘*Nanophases in the Environment, Agriculture, and Technology*’
 (PI. Alex Navrotsky and 12 faculty **participants**)

Smithsonian Institution Scholarly Studies Program

1998 to 2000

\$69,490

'COLLABORATIVE Proposal: Investigation of Precocious "Mesozoic" Floras from the Early Permian'

(collaborative with William DiMichele, Dept. of Paleobiology, Smithsonian Institution)

National Science Foundation - Geology & Paleontology Program

1999 to 2001

\$97,850 (IPM portion of \$406,231 total budget)

'COLLABORATIVE Proposal: Integrated Analysis of Permian Terrestrial Sediments and Paleosols Defining a High-Resolution Proxy for the Evolution of Western Equatorial Pangean Climate and Global Atmospheric pCO₂'

(collaborative with Paul Renne, Berkeley Isotope Geochronology Center; Thure Cerling and James Collister, Univ. of Utah; Maureen Steiner, Univ. of Wyoming; Troy Rasbury, SUNY, Stony Brook)

UC, Davis Faculty Research Grant

1999 to 2000

\$2,976

'Refinement of U-Pb Dating Techniques and Application to Dating of Lacustrine Carbonates: Miocene Barstow Formation, Southern California'

National Science Foundation - Geology & Paleontology Program

1998 to 2000

\$50,041

'Cambrian Extinction Events and Carbon Cycling: An Integrated Isotopic Approach to Unraveling Biogeochemical Processes Linking Cambrian Phenomena'