

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:*
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| Department of Geology, University of California, Davis | |
| <i>University Distinguished Professor</i> | July 2017 to present |
| <i>Chancellor's Chair in Geosciences</i> | July 2015 to present |
| <i>Full Professor</i> | July 2000 to 2017 |
| <i>Associate Professor</i> | Jan. 1998 to June 2000 |
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| Department of Earth Sciences, University of California, Riverside | |
| <i>Associate Professor</i> | July 1995 to Dec. 1997 |
| <i>Assistant Professor</i> | Jan. 1990 to June 1995 |
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| 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

- *Lawrence L. Sloss Award for Sedimentary Geology*, Geological Society of America (2017)
- *Fellow* of the Geochemical Society (2016)
- *Fellow* of the European Association of Geochemistry (2016)
- *Chinese Academy of Sciences President's International Distinguished Faculty Fellowship* (2016)
- *Chancellor's Leadership Professor* (awarded July 2016)
- *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 4 others), *Palaeogeography, Palaeoclimatology, Palaeoecology* (2016-to present)

Co-Editor (with Z-Q. Chen, C. Wang, and H. Xiumian), special issue ('Sedimentology as a Key to Understanding Earth and Life Processes') *Earth Science Reviews* (2017)

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, Review Board for the Israeli Council of Higher Education, to review the graduate programs in marine sciences and geosciences at all (7) research universities in Israel (Feb. 2018)

Member, Steering Committee, *OneClimate*, UC Davis Climate Science Philanthropy Initiative (2017)

Member (one of two), External Review Committee, Dept. of Earth and Environmental Science, Temple University (Feb. 2017)

Member, Council of Advisors for *Cool Davis*, a Carbon-neutral initiative by the City of Davis, CA (2015 - present)

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 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)

38th Annual Woodford-Eckis Lectureship (2017-2018), Pomona College (Feb. 2018)
Plenary Speaker, *GeoDaze*, an annual student-run symposium at the University of Arizona (April 2018).
Keynote Speaker, *The Paleozoic and Mesozoic Earth System: Co-evolution of the Oceans, Atmosphere, Continents, and Biosphere*, Goldschmidt Meeting of the Geochemical Society, Paris, France (2017)
Keynote Speaker, United States Geologic Survey, Pacific Region Colloquium. Menlo Park, CA (2017)
Co-organized and co-convended session *Speleothem proxy records in an Earth system context*, Climate Change: The Karst Record VIII, Austin, TX (2017)
Keynote Speaker, *38th New Phytologist Symposium* “Colonization of the Terrestrial Environment”, Bristol, UK (2016)
Focus Speaker, *2015 California Science Education Conference*, Sacramento, CA (2015)
Plenary speaker, *19th International Sedimentological Congress*, Geneva Switzerland (August 2014)
<https://www.youtube.com/watch?v=3FITKXBSTp8>
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-convended 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 Paleoceanography 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 Paleoceanography*', 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 & DIVERSITY EFFORTS

Mentoring of Graduate Students and Postdoctoral Scholars (excluding ~30 undergraduate student mentorees since 1990)

Post-doctoral scholars

- Jitao Chen (2014-2017), associate 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

- Jon Richey, Ph.D. (2014—)
- Barbara Wortham, Ph.D. (2016—)
- Julie Griffin, Ph.D. (2014—2018)
- Neil Griffis, Ph.D. (2013—2018)
- Amanda Porter, Ph.D. (2014—2017), Univ. College Dublin, co-advised by Prof. Jenny McElwain, post-doctoral scholar, Trinity University, Dublin, Ireland
- Wanlu Fu, Ph.D. (2012—2016) Peking University, co-advised by Dayong Jiang
- Galen Griggs, M.S. (2013—2016), geoscientist at Hart Crowser Geotech and Environmental Analysis, Seattle, WA
- Rawan Alasad, M.S. (2012—2015), petroleum geologist, Saudi Aramco
- Laura Santare, M.S. (2011— 2013), earth science teacher, NY
- Julie Griffin, M.S. (2011—2014), Ph.D. student (UCD)
- Erik Gulbranson, Ph.D. (2006—2011), 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), 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

Diversity & Inclusiveness Initiatives (excluding mentoring of students and young scientists in my research group and through collaborative research projects)

External of the University:

- Keynote speaker, *Promoting and Supporting Equality of Opportunities in Geosciences*, European Geological Union Annual Meeting, Vienna, Austria (April 2018)
- Panelist, *Dual Career Workshop*, Goldschmidt Meeting of the Geochemical Society, Paris, France (Aug 2017)
- As Councilor I was involved in the development of the *RISE* (Respectful Inclusive Scientific Events) program at the *Geological Society of America* (2016). This initiative includes an Events Code of Conduct, which outlines specific expectations for participants at GSA-supported events and a process by which to address allegations of misconduct.
- As President of the *Geological Society of America* (2017-2018), I established an *ad hoc* Ethics Committee to evaluate the *GSA* existing umbrella Code of Conduct to assure that it fully addresses the expected standards of professional ethics and recommends a due process by which to investigate and act on breaches of the Code. This effort also has an objective to establish GSA as a leader in 'changing the culture' in STEM training environments and professional workplaces.
- Member, Diversity Task Force of the *Geological Society of America* (2014-2016)
- Mentor to an assistant professor (2003-2005) through the NSF-ADVANCE sponsored *Academic Careers in Engineering and Science* Program at Case Western Reserve University.
- Member, American Geological Institute Minority Participation Scholarship Committee (1999-2000)

Internal to the University of California:

- Co-led a professional development workshop at the Society of Chicana and Native American Scientists (SACNAS) Conference in Washington, D.C., sponsored by the UCD ADVANCE program (2015).
- Faculty mentor for undergraduate students in the *California Alliance for Minority Participation* (CAMP) (2015-2016)
- Panelist, *Advancing Research through Diversity, Illuminating New Opportunities in Research* symposium, UC Davis Office of Research (May 8, 2015).
- Faculty mentor to Corinne Wong, a UC President's Postdoctoral Fellow (2013-2015). Our interaction included participating in professional development and diversity workshops offered by the UC Office of the President.
- Panelist, *Gender Matters Symposium* sponsored by the UC Davis Consortium for Women and Research (May 23, 2011)
- Faculty participant in the in-residence *COSMOS* program at UCD (summers 2000-2003; 2006-2010)
- Co-developed and co-taught (with David Osleger) 'Careers in the Geosciences' seminar as an overload course. This course emphasized the importance of inclusiveness and diversity in the professional environment (2007-2009).
- Invited speaker, UC Davis 'Women in Science' campus-wide course organized by Dean of Biological Sciences, Phyllis Wise (Nov. 2004)
- Faculty mentor in the *Minority Undergraduate Research Participation program, Physical and Mathematical Sciences* (MURPPS), UC Davis (2001 to 2006).

- Chancellor's and Provost's *Task Force on Faculty Recruitment and subcommittee on Faculty Welfare and Climate* (1999 to 2000).
- Member, Steering Committee, *Minority Undergraduate Research Participation in the Physical and Mathematical Sciences* (MURPPS) (1999 to 2004)
- Faculty Coordinator/Director of the 3rd year Program, Davis Honors Challenge (1999 to 2006; 2008-2009)

PEER REVIEWED Publications

In Press and In Revision/Review

1. Griffis, N.J., Montanez, I.P., Fedorchuk, N., Isbell, J., Mundil, R., Vesely, F., Weinshultz, L., Iannuzzi, R., Gulbranson, E., Taboada, María, A.C., Pagani, A., Sanborn, M., Huyskens, M., Wimpenny, J., Linol, B., and Yin Q-Z., in press, Isotopes to Ice: Constraining Provenance of Glacial Deposits and Ice Centers in West-Central Gondwana. *Palaeogeography, Palaeoclimatology, Palaeoecology*.
2. Fedorchuk, N., Isbell, J., Griffis, N.J., Montanez, I.P., Vesely, F., Iannuzzi, R., Mundil, R., Yin, Q-Z, Pauls, K.N., Rosa, E.L.M., in press, Origin of paleovalleys on the Rio Grande do Sul Shield (Brazil): implications for the extent of late Paleozoic glaciation in west-central Gondwana. *Palaeogeography, Palaeoclimatology, Palaeoecology*.
3. Li, Y-X, Ma, L., Kodama, K., and Montañez, I.P., in revision, Orbitally driven cyclic variations of redox conditions during Oceanic Anoxic Event 2 (OAE2). *Earth and Planetary Science Letters*.
4. Griffin, J.M., Chen, J., Montañez, I.P., Glessner, J., and Osleger, D.J., in revision, Solution—laser ablation MC-ICPMS comparison of conodont apatite ⁸⁷Sr/⁸⁶Sr. *Chemical Geology*.
5. Wortham, B.E., Montañez, I.P., Rowland, D.J., Lerche, M., and Browning, A., in review, Mapping internal structure and fluid inclusion distribution in stalagmites with coupled high-resolution tomography. *Geochemistry, Geophysics, Geosystems* (submitted Oct. 2017).

2018

6. Montañez, I.P., Osleger, D.J., Chen, J., Wortham, B., Stamm, R., Nemyrovska, T., Griffin, J.M., Poletaev, V.O., and Wardlaw, B., 2018, Carboniferous climate teleconnections archived in coupled bioapatite $\delta^{18}\text{O}$ and ⁸⁷Sr/⁸⁶Sr records from the epicontinental Donets Basin, Ukraine. *Earth and Planetary Science Letters*.
7. Montañez, I.P., 2018, Mind the Gap. *GSA Today*, v. 3-4, p. 24-29.
8. Richey, J.D., Upchurch, G.R., Montañez, I.P., Lomax, B.H., Crout, N.M.J., Suarez, M.B., Joeckel, R.M., Ludvigson, G.A., and Smith, J.J., 2018, Changes in CO₂ during oceanic anoxic event 1d indicate similarities to other carbon cycle perturbations. *Earth and Planetary Science Letters*, v. 491, p. 172-182.
9. Chen, J., Montañez, I.P., Qi, Y-P., Shen, S-Z., and Wang, X-D., Sr and C isotopic evidence for decoupling of atmospheric pCO₂ from continental weathering at the apex of the late Paleozoic glaciation. *Geology*, <https://doi.org/10.1130/G40093.1>.
10. Griffis, N.P., Mundil, R., Montañez, I.P., Isbell, J., Fedorchuk, N., Vesely, F., Iannuzzi, R., and Yin, Q-Z., 2017, A new stratigraphic framework built on U-Pb single zircon TIMS ages with

implications for the timing of the Penultimate Icehouse (Paraná Basin, Brazil). *Bull. Geol. Soc. Amer.*, <https://doi.org/10.1130/B31775.1>

2017

11. 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*, v. 462, p. 35-46.
12. Wortham, B.E., Wong, C.I., McGee, D., Silva, L.C.R., Montañez, I.P., Rasbury, E.T., Cooper, K.M., Sharp, W.D., Glessner, J.J.G., and Santos, R.V., 2017, Assessing response of local moisture conditions in central Brazil to variability in regional monsoon intensity using speleothem $^{87}\text{Sr}/^{86}\text{Sr}$ values. *Earth and Planetary Science Letters*, v. 463, p. 310-322.
13. 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. 472, p. 260-263.
14. Wilson, J.P., Montañez, I.P., White, J.D., DiMichele, W.A., McElwain, J.C., Poulsen, C.J., and Hren, M.T. 2017, *Tansley Review* — Dynamic Carboniferous tropical forests: New views of plant function and potential for physiological forcing of climate. *New Phytologist*, v. 215, p. 1333-1353, doi: 10.1111/nph.14700.
15. Montañez, I.P. and Crossey L.J., 2017, Diagenesis. In White, W.M. (Ed.), *Encyclopedia of Geochemistry*. Springer Intl. Publishing. DOI 10.1007/978-3-319-39193-9_35-1
16. Porter, A.S., Yiotis, C., Montañez, I.P., and McElwain, J.C., 2017, Stable carbon isotopes of early diverging C3 plants exposed to a range of atmospheric CO₂:O₂ ratios show phylogenetic trend. *Geochimica Cosmochimica Acta*, v. 213, p. 517-533.

2016

17. Montañez, I.P., McElwain, J.C., Poulsen, C.J., White, J., DiMichele, W.A., Wilson, J.A., Griggs, G., Hren, M., 2016, Climate, pCO₂ and terrestrial carbon cycle linkages during Late Palaeozoic glacial-interglacial cycles. *Nature Geoscience*, v. 9, p. 824–828, doi:10.1038/geo2822.
18. 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.
19. 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
20. Montañez, I.P., 2016, A Late Paleozoic climate window of opportunity, *Proceedings of the National Academy of Sciences*, v. 113, p. 2334-2336.
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120. 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.
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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 - Paleoclimate Perspectives and Climate Change
\$497,993

pending (Oct. 2017)

‘Collaborative Research: Investigating multi-time-scale climate dynamics in CA: An Integrated multi-proxy stalagmite, monitoring, and modeling approach

(collaborative with Sujoy Mukhopadhyay and Kari Cooper (UCD), David McGee (MIT), Clay Tabor (Univ. of Conn.), and Peter Swart (RSMAS, Univ. of Miami).

National Science Foundation - Sedimentary Geology & Paleobiology Program 9/2017-8/2020
EAR1729882 – \$299,872

‘Late Paleozoic Glaciation-Climate Dynamics in West-Central Gondwana: Geochronologic, Sedimentologic, and Paleoclimate Insight, Paraná Basin, Brazil’

(collaborative with Roland Mundil, Berkeley Geochronology Center and John Isbell, Univ. of Wisconsin, Milwaukee)

Naional Science Foundation - Sedimentary Geology & Paleobiology Program 3/2016-1/2019
EAR1554897 – \$179,785

‘Collaborative Research: A Remarkable New Fossil Assemblage from the Burgess Shale at Marble Canyon, Kootenay National Park’

(collaborative with Robert Gaines, Pomoma 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)

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