



CURRICULUM VITAE (as of 12/12/2024)



Dr. Lixin Jin

Professor –Department of Earth, Environmental and Resource Sciences*
University of Texas at El Paso, 221A Geology
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*Department name change in 2021 from Geological Sciences;

EDUCATION AND PROFESSIONAL EXPERINCES

The University of Texas at El Paso College of Science	Associate Dean for Research (9/2024-)
The University of Texas at El Paso Earth, Environmental, and Resource Sciences	Professor (2023- present)
The University of Texas at El Paso Department of Geological Sciences	Associate Professor (2017-2023)
Institut de Physique du Globe de Paris	Visiting Faculty (June - July 2018)
The University of Texas at El Paso Department of Geological Sciences	Assistant Professor (2011-2017)
Pennsylvania State University, University Park Earth and Environmental Systems Institute	Postdoctoral fellow (2007- 2010)
The University of Michigan, Ann Arbor Department of Geological Sciences	Ph. D. (2001- 2007)
The University of Science and Technology of China, China Department of Earth and Space Sciences	B. S. (1996-2001)

PROFESSIONAL MEMBERSHIPS

Geological Society of America
Mineralogical Society of America
American Geophysical Union
Geochemical Society
American Chemical Society,
Sigma Xi
American Geosciences Institute

SERVICE

Academic service:

- Serve as an associate editor for Journal of Geophysical Research – Earth Surface (3/15/2020-12/31/2022), and for *Geochimica et Cosmochimica Acta* (10/28/2020-).
- Serve as a guest co-editor for a special issue on Frontier in Water with the theme “Woman in Critical Zone Science” (10/25/2021-10/2023)
- Manuscript review for *Geochimica et Cosmochimica Acta*, *Nature*, *Chemical Geology*, *Geology*, *Geophysical Research Letters*, *American Journal of Science*, *Geoderma*, *Applied*

Geochemistry, Energy & Fuels, and Earth Surface Processes and Landforms, Journal of Soils and Sediments, Aquatic Geochemistry, Water Resources Research, International Journal of Coal Geology.

- Proposal review for an American Chemical Society, an NSF postdoctoral fellowship program, NSF programs (low-temp geochemistry and geobiology, hydrological sciences), and Goldschmidt student travel grants.
- Serve as a panelist for NSF (2018; 2022:X2; 2024)
- Serve as review editor for Frontier Earth Science (2016-2021)
- Co-convenor for a Goldschmidt 2008 session, a 2009 AGU session, Goldschmidt sessions in 2010, 2011, 2012 and 2014, a GSA session in 2019, a 2021 AGU session.

Department service:

- Department of Geological Sciences P/T committee, member (2017-2020)
- Department of Geological Sciences, Assistant Chair (July 2019-August 2022)
- Environmental Science Program Steering committee, member (2015-2019)
- Undergraduate curriculum committee member, Department of Geological Sciences, UTEP (2013-2017)
- Graduate admission committee member, Department of Geological Sciences, UTEP (2015-2017)
- Graduate curriculum committee member, Department of Geological Sciences, UTEP (2015-2017)
- Environmental Science program graduate admission committee, Department of Geological Sciences, UTEP (2012-2017)
- Faculty search committee member; 2013 for the Exploration Geophysics position, Department of Geological Sciences, 2014-2015 for Department chair, 2023-2024 for Department Chair
- Faculty search committee chair, 2015-2016 for Geochemistry position
- College of Science, best thesis/dissertation committee, member for Geology/Environmental Science (2015-)
- Scholarship committee, chair (2014-2019)
- SACS (Accreditation), chair (2019-2024)
- Core assessment committee member, 2014 with Rip Langford, and then evaluation with Marc Cox in 2015; for ESCI BS/MS programs in 2019
- Steering committee for the Earth Science week activities (2021)

Community and UTEP service:

- Serve as one of four senior scientists for a \$1.5 M NSF project (PI: Pei-Ling Hsu), to improve informal STEM learning of Irvin High School students. The participating high school students and I will meet for three hours every other Saturday afternoon during the spring 2014 semester and then meet for six hours a day for 30 days in June and July on research projects.
- Serve as geologist to investigate the collapse of graveyards at the Fort Bliss National Cemetery
- Judges for student science colloquiums (the Pennsylvania State University), COURI symposium (summer 2013), poster sessions at American Geophysical Union conference (2013), research Expo (UTEP, 2014), Student Elevator Speech (UTEP graduate school, 4/2/2015)
- Serve as a member of the Advisory Board for COURI at UTEP (2018-)
- Serve as a reviewer for the Dodson Research Grant for the Graduate School

- Serve on the Faculty Search committee in the Department of Biological Sciences, for Global Change position (8/24/2018-04/15/2019)
- Serve on the Houston Endowment Scholarship selection committee for the University Honors Program, UTEP (3/10/2020-)
- Advisory committee member for the NSF-funded ASSETS program at UTEP (2021-2026)
- Serve on the search committee for the COS Facility director position (11/1/2021-11/5/2021)
- Serve on the Research advisory board at COS representing DEERS (3/2022-)

RESEARCH INTERESTS

My main research interest is to study the chemical, physical and biological processes in the evaluation of critical zone. This includes investigating the initiation of rock alteration and consequent mineral transformation, quantifying mineral dissolution kinetics and soil formation rates, and understanding the biota's roles in the elemental cycles, and tracing the release and transport of trace elements (e.g., metals and REE) in the shale-dominated landscapes. In the managed critical zones of Southwestern USA, I am interested in the conditions, kinetics and mechanisms of the precipitation of pedogenic carbonates and the release of green-house gas CO₂ in flood-irrigated agricultural fields, by combining field investigation, laboratory column experiments, and reactive transport modelling.

FUNDINGS

Extramurally Funded Grants and contracts (Current)

- Jin, Lixin (Principal investigator), with James Chapman, Laura Alvarez, Jason Ricketts, David Young, Mark Engle and James Kubicki. "Improving minority advancement for geoscience equity nationally (IMAGEN)", NSF Div of Res, Innovation, Synergies, & Edu, \$607,542 (2/15/2024-1/31/2027, NSF#-2329485).
- Jin, Lixin (co-PI), with David Huber (UTEP Lead PI), Jen Pierce (BSU Lead PI), Jodi Brandt, Lisa Meierotto, and Rebecca Castellano. "Dynamic Carbon SMART (Soil Monitoring, Assessment, Research, and Training) Project", USDA, Natural Resource Conservation Service, Soil and water Conservation, \$1,999,451 (09/30/2023-09/29/2027).
- Jin, Lixin (Principal Investigator) with Marguerite Mauritz-Tozer. "Collaborative Research: SitS: Development of multiple-scale sensor and remote sensing technology to quantify abiotic carbon dioxide emission in irrigated soils of aridlands". NSF-Div Of Chem, Bioeng, Env, & Transp Sys, \$586,392 (1/2021-12/2024, NSF #2034312).
- Jin, Lixin (Principal Investigator) with Vanessa Lougheed, Jennie McLaren, Lin Ma, and Anthony Darrouzet-Nardi with senior personnel Mark Engle, Thomas Gill, Hugo Gutierrez, Marianne Karplus, Marguerite Mauritz-Tozer, Craig Tweedie, Melissa Warak, and Jie Xu. "Network Cluster: Patterns and controls of ecohydrology, CO₂ fluxes, and nutrient availability in pedogenic carbonate-dominated dryland critical zones", NSF-EAR, \$5.26M (9/1/2020-8/31/2025; NSF award #2012475).

Extramurally Funded Grants and contracts (Completed)

- Jin, Lixin (Principal Investigator), with Anthony Darrouzet-Nardi and Diane Doser (co-Principal Investigators). "Understanding the repercussions of dryland irrigation on carbon dioxide emission during pedogenic carbonate development", NSF Geobiology and Low-Temperature Geochemistry program, \$683,756 (8/1/2019-7/31/2024; NSF award #1853680).
- Jin, Lixin (co-Principal Investigator) with Mark Engle (Principal Investigator), Lin Ma, Shane Walker. "MRI: Acquisition of inductively coupled plasma-optical emission spectrometer for

- research and education uses in water, energy, and environmental sciences”, NSF-MRI, \$119,365 (9/1/2020-8/31/2022; NSF award#2018201).
- Jin, Lixin (co-Principal Investigator) with Anthony Narrouzet-Nardi (Principal Investigator). “MRI: Acquisition of a carbon dioxide isotope analyzer for monitoring real-time carbon fluxes in extreme environments and training the next generation of environmental scientists”, NSF-MRI, \$204,017 (9/1/2019-8/31/2022) (\$131,324 from NSF award #1919904).
- Jin, Lixin (co-Principal Investigator), with Thomas Gill (Principal Investigator). “Quantifying Bioavailable Metals and Potential Dust Emissions from Highway-Related and Desert Sediments at Lordsburg Playa, New Mexico”, CARTEEH) Competitive Research Program, Department of Transportation, Federal, \$57,380 (1/1/2018-3/31/2019).
- Jin, Lixin (Principal Investigator), with Vanessa Lougheed, Elizabeth Walsh, and Diane Doser. “Improved STEM education for 21st century environmental scientists through stratified mentoring and professional networking”, National Science Foundation, Improving Undergraduate STEM Education (IUSE) program, Federal, \$298,431 (2016-2019). NSF#1611860
- Jin, Lixin (Co-Principal Investigator), with Elizabeth Walsh (Principal Investigator), Vanessa Lougheed, and Diane Doser. “TIERA: Training in Environmental Research and Academic Success”, Department of Education, Minority Science and Engineering Improvement Program (MSEIP), Federal, \$604,868 (2013-2017).
- Jin, Lixin (Co-Principal Investigator), with Aaron Velasco (Principal Investigator), Tina Carrick, Lin Ma, and John Taber. “GP_EXTRA: academic year pathways research experience program (AY-PREP)”, National Science Foundation, Improving Undergraduate STEM Education (IUSE) program, Federal, \$498,082 (2015-2018).
- Jin, Lixin (Co-Principal Investigator), with Rip Langford (Principal Investigator). “Forensic Geotechnical Engineering Analysis-Sunland Park Levees”, Contract with Kenall Inc, \$20,000 (2015-2016)
- Jin, Lixin (Co-Principal Investigator), with Lin Ma (Principal Investigator). “Systematic investigation of REE mobility and fractionation during continental shale weathering”, US Geological Survey, Mineral Resources External Research Program (MRERP), Federal, \$50,000 (2012-2013).
- Jin, Lixin (Principal Investigator), with Girisha Ganjegunte, Vanessa Lougheed, David Borrok, Lin Ma. “Natural and human impacts on soil development in the Rio Grande Valley: Sustainability of agriculture and water resources on the US-Mexico border”, Environmental Protection Agency SCERP, Federal, \$70,694 (2011-2012).
- Jin, Lixin (Principal Investigator). “Using carbon isotopes to determine the sources and mass balance of CO₂ during shale weathering at Susquehanna Shale Hills Critical Zone Observatory”. Subcontract from NSF-funded SSHO managed by Penn State University, \$9,886 (1/1/2013-8/31/2013).

Internally Funded Grants and Contracts

- Jin, Lixin (Principal Investigator). “Characterization of calcite-induced soil CO₂ production in agricultural fields with flow-through experiments”, UTEP URI, \$4,960 (02/15/2016-08/31/2016)
- Jin, Lixin (Principal Investigator). “Using stable isotopes to determine the sources and rates of CO₂ acquisition during shale weathering at a NSF Critical Zone Observatory”, UTEP URI, \$4,960 (9/1/2011-8/31/2012).

Grants and Contracts as a Participant/senior personnel

- Jin, Lixin (Senior Personnel), with PIs Aaron Velasco, Hugo Gutierrez, Marianne Karplus, Benjamin Brunner, and Lin Ma. “Implementation Grant: Community-driven Inclusive Excellence and Leadership Opportunities in the Geosciences (CIELO-G)”, NSF GEO Opps Leaders Diversity, \$7,244,556 (09/01/2022-8/31/2027).
- Jin, Lixin (participant on a supporting role), with Elizabeth Walsh (Principal Investigator), and others. “RaMP: Research opportunities and access for diverse scientists (ROADs) in extreme dryland environments”, NSF, #2319855, \$2,998,993 (2023-2027).
- Jin, Lixin (Participant on a supporting role), with Jeffrey Olimpo (Principal Investigator), Lourdes Echegoyen, Karina Canaba. “Accelerating STEM success through experiences for third-year transfers”, NSF, \$1,483,492 (10/01/2021-9/30/2027).
- Jin, Lixin (participant on a supporting role) with William Hargrove (Principal Investigator), Joe Heyman, and others. “Sustainable water resources for irrigated agriculture in a desert river basin facing climate change and competing demands: From characterization to solutions”, U.S. Department of Agriculture, NIFA, Federal, \$5,000,000 (2015-2020).
- Jin, Lixin (participant on a supporting role), with Pei-Ling Hsu (Principal Investigator), Wen-Yee Lee, and others. “Transforming students' partnerships with scientists through cogenerative dialogues”, NSF Division Of Research On Learning, \$1,374,006 (2013-2017).

Pending Proposals

- Jin, Lixin (co-PI) with Lin Ma (PI), James Chapman, Jason Ricketts, and Mark Engle, “TS: Strengthening and Advancing Earth and Environmental Isotope Research in an Emerging Research University from the American Southwest”, NSF EAR/IF, \$413,325, 10/01/2024 to 09/31/2027.
- Jin, Lixin (lead PI) with Hugo Gutierrez, Hernan Moreno, Marguerite Mauritz-Tozer, “Consortium of NASA-MSI-Students-local producers: Build a strong community and prepare 21st century workforce in the Arid Southwestern United States”, NASA MUREP, \$1,197,408, 4/2025-4/2028.

STUDENT SUPERVISION

Postdoc scholars supervised:

- Dr. David Huber (6/2021-12/2024): NSF-Dryland CZ project
 Dr. Liz Andrews (1/1/2022-03/29/2024): NSF-GG project
 Dr. Ron Albright (9/5/2023-5/15/2024): CIELO-G and Sits projects

Graduate students as thesis or dissertation committee chair:

Christi Cox (MS, 2011-2012); Frankie Reyes (MS, 2012-2014); Patrick Rea (MS, 2015-2018); Anna Ortiz (PhD, 2014-2018); Manny Sosa (MS, 2017-2019); Abiodun Ayo-Bali (8/2019-5/2021), Kingsley Fasesin (1/2020-12/2020); Valeria Molina (MS, 5/2021-5/2023); Jessica Hartman (PhD, 2021-); Katya Herrera (PhD, 2021-); Daisy Wilson (2022-2023), Carmel Murillo (PhD, 2023-)

Undergraduate students:

Alan Barraza (1/2011-5/2012); Alyssa Le Mar (5/2011-12/2012); Manny Sosa (5/2012-12/2014); Daniel Schachet (summer 2013); Ryan Reeves (1/2011-1/2013); Isaac Martinez (5/2013-5/2015); Crystal Subia (5/2011-12/2012); Sandra Garcia (summer 2013 and summer 2014); Carlos Caballero (1/2015-5/2015); Frank Chavez (9/2015-4/2016); Jaime Enriquez (9/2015-12/2015); Andrea Lopez (9/2015-5/2016); Mercedes Navarro-O'hara (1/2016-3/2016); Kofo Fadeyi (1/2016-12/2016); Paola Soto-Montero (1/2016-6/2017); Karen Valles (9/2016-12/2018); Julieta Saucedo (9/2017-12/2020); Victoria Moreno (8/2018-8/2020); Eric Suh (9/2019-12/2020), Daphne Short (9/2020-5/2021), Michelle Quiroz (9/2020-8/31/2022); Tricia Tellez (6/2021-8/2021); Frida Garcia Ledezma (9/1/2022-08/01/2024); Leslie Alcalá (9/1/2022-5/30/2023); Alejandro Rosales

(9/5/2022-12/30/2022); Mallory Salas (9/1/2023-); Desiree Rendon (9/1/2023-05/01/2024); Irene Shuk (REU, summer 2024, from George Washington University); Rodolfo Moreno Venezuela (12/1/2024-)

As a dissertation committee member:

- Eric Kappus (Geological Sciences, PhD, 2012-2016)
- Syprose Nyachoti (Geological Sciences, PhD, 2013-2016)
- Najwah Almesleh Alssaedi Ahmed (Environmental Science and Engineering, PhD, 2015-2018)
- Carlos Tamez (Environmental Science and Engineering, PhD, 2015-2019)
- Xuyang Liu (Geological Sciences, PhD, 2017-2018)
- Jiye Guo (Geological Sciences, PhD, 2017-2021)
- Kathleen Schaeffer (Ecology and Evolution Biology, PhD, 2017-2023)
- Hugo Alarcon (Geological Sciences, PhD, 2019-2023)
- Rachel Phillips (Geological Sciences, PhD, 2019-2023)
- Habibur Howlider (Environmental Science and Engineering, PhD, 1/2021-8/2021)
- Alina Spera (Ecology and Evolution Biology, PhD, 2020-2024)
- Tanzila Hanif (Boise State University, Geological Sciences, PhD, 11/2021-)
- Dylan Stover (Ecology and Evolution Biology, PhD, 2022-)
- Enrique Garcia (Ecology and Evolution Biology, PhD, 2022-)
- Stephanie Marquez (Geological Sciences, PhD, 2024-)
- Isabela Suaza Sierra (Geology, PhD, 2024-)

As a thesis committee member:

- Anna Ortiz (Environmental Science, MS, 2012-2013)
- Nickole Miller (Biological Sciences, MS, 2013-2014)
- Ector Martell (Environmental Science, MS, 2015)
- Christina Hernandez (Biological Sciences, MS, 2014-2015)
- Alma Loya (Chemistry, MS, 2014-2016)
- Sandra Garcia (Geological Sciences, MS, 2015-2017)
- Marisela Montelongo (Geological Sciences, MS, 2016-2017)
- Troy Allen Svede (Environmental Engineering, MS, 2016-2017)
- Cody Ryan (Environmental Science, MS, 2014-2015)
- Alejandro Benhumea (Ecology and Evolution Biology, MS, 2015-2018)
- Allison Nawman (Ecology and Evolution Biology, MS, 2016-2017)
- Daniela Aguirre (Ecology and Evolution Biology, MS, 2017-2018)
- Ezequiel A Moreno (Geological Sciences, MS, 2017-2019)
- Jorge Navarrete (Civil Engineering, MS, 2017-2018)
- Hayden Thompson (Geological Sciences, MS, 2019-2020)
- Viridiana Orona (Geological Sciences, MS, 2020-2023)
- Mariana Orejel (Environmental Science, MS, 2020-2021)
- Aimee Garcia (Geophysics, MS, 1/2020-12/2021)
- Marcos Mendez (Geology, MS, 2020-2021)
- Briana Salcido (Environmental Science, MS, 2021-2023)
- Katya Herrera (Environmental Science, MS, 2021-2023)
- Stephanie Marquez (Environmental sciences, MS, 2021-2023)
- Kristina Sasser (Geological Sciences, MS, 2022-2023)
- Christopher R Sandoval (Biological Sciences, MS, 2024-)

- Angie Cano (Geological Sciences, MS, 2024-)
- Juan Navar (Geological Sciences, MS, 2024-)

As a member on the Comprehensive Exam for the following PhD students:

- Claudia Santiago (2011)
- Xuyang Liu (2014)
- Jiye Guo (2017)

INVITED TALKS since 2021

December-2024: Lixin Jin, Tanzila Hanif*, Jen Pierce, Carmel Murillo*, Dave Bjorneberg, Hugo Gutierrez. One tale of two dryland ecosystems: How does irrigation modify inorganic carbon dynamics in drylands? American Geophysical Union annual meeting, Washington DC.

November-2024: Salinity buildup, pedogenic carbonate accumulation, heat stress in a changing climate at a pecan orchard in Tornillo, TX: is dryland irrigation sustainable at American southwest? Department of Plant and Soil Science, Texas Tech University, Lubbock, TX.

September-2024: Lixin Jin, Elizabeth Andrews⁺, Jesus Ochoa-Rivero*, Jessica Hartman*, Hugo Gutiérrez Jurado, Mark Engle, Lin Ma (2024). Modelling the salinity buildup and understanding tree stress in a changing climate at a pecan orchard in Tornillo, TX: is dryland irrigation sustainable at American southwest? Geological Society of American annual meeting, Anaheim, CA.

July-2024: Lixin Jin, Elizabeth Andrews⁺, Aimee Garcia*, Michelle Quiroz**, Valeria Molina*, Orlando Ramirez-Valle*, Jesus Manuel Ochoa-Rivero*, Kristina Sasser*, Manny Sosa*, Viridiana Orona*, Jessica Hartman*, Galen Kaip, Mark Baker, Diane Doser, Hugo Gutierrez, Mark Engle, Anthony Darrouzet-Nardi and Lin Ma (2024) Evaluating the ecosystem resilience of irrigated drylands using a critical zone approach in western Texas. Goldschmidt conference, Chicago, IL.

March-27-2023: “Understanding the repercussions of agricultural irrigation on carbon dioxide emission during pedogenic carbonate development in dryland critical zone”. University of Wyoming, department seminar, Laramie, WY.

March-8-2023: “Producing climate smart pecans”. I-CLEER program with Jen Pierce at Boise State University.

Jan-27-2023: “Opportunities and challenges in dryland agriculture: a critical zone approach”. University of Alabama, department seminar, virtual.

Nov-16-2022: “Dynamics” in the drylands critical zone. Virtual seminar with “Dynamics” Critical Zone thematic cluster.

June-28-2022: Controls of pedogenic carbonate on development, evolution and functions of dryland critical zones. Jornada Ecological Short-Course, Las Cruces, NM.

Feb-24-2022: Opportunities and challenges in dryland agriculture: an environmental perspective. One Water World seminar series. Center for Environmental Resource Management (CERM), UTEP.

Feb-11-2022: Controls, rates, and impacts of enhanced calcite accumulation and abiotic CO₂ emission in irrigated drylands. Department of Earth and Environmental Sciences, University of Texas at Arlington. Virtual seminar.

Sept-7-2021: Network Cluster: Patterns and controls of ecohydrology, CO₂ fluxes, and nutrient availability in pedogenic carbonate-dominated dryland critical zones. The 2021 CZO Cyberseminar on CZO and watersheds: Managed and Agricultural sites. Virtual seminar.

Jan-29-2021: Network Cluster: Patterns and controls of ecohydrology, CO₂ fluxes, and nutrient availability in pedogenic carbonate-dominated dryland critical zones. Jornada USDA-ARS group. Virtual seminar.

PUBLICATIONS

In Review and Preparation (+ postdoc scholar; *Graduate student; ** Undergrad)

7. Jin, L., Mauritz-Tozer, M., Kumar, S., Palmate, S., Ganjgunte, G., Esquivel Herrera, K., Hartman, J. Development of multiple-scale sensor and remote sensing technology to quantify abiotic carbon dioxide emission in irrigated soils of aridlands: challenges, opportunities, and future directions. In Prep.
6. Hartman, J. and Jin, L. Calculating pedogenic carbonate accumulation rates in an irrigated dryland agricultural field using radiocarbon and optically stimulated luminescence dating. In prep.
5. **Jin, L.**, Doser, D., Lougheed, V., Walsh, E., Zarei, M. and Corral, G. Improved STEM education for 21st century environmental scientists through stratified mentoring and professional networking. *In preparation*.
4. Andrews, E.⁺, Ortiz, A.*^{*}, Molina, V.*^{*}, Kaye, J., Darrouzet-Nardi, A. and Jin, L. Flood irrigation drives the temporal variability of soil respiration and pedogenic carbonate accumulation rates and soil CO₂ production dynamics in irrigated agricultural sites. *In revision*.
3. Garcia, A.*^{*}, Quiroz, M.**^{**}, Molina, V.*^{*}, Ramirez-Valle, O.*^{*}, Sosa, M.*^{*}, Orona, V.*^{*}, Kaip, G., Doser, D., Gutierrez, H., Engle, M., Darrouzet-Nardi, A., Ma, L. and **Jin, L.**, Tree size as a proxy of texture and soil salinity in a pecan orchard: exploring the spatial variability and dominant controls on carbon fluxes in managed dryland critical zone. *Submitted*.
2. Krajnc, B., **Jin, L.**, Vaupotič, J., Lojen, S., Fujiyoshi, R. and Ogrinc, N. Sources, pathways and behaviour of cave air CO₂ using carbon isotopes. In Prep
1. Sosa, S*^{*}, Ma, L., Engle, M., and **Jin, L.** Mobility of trace elements underneath irrigated agricultural fields: implication of dryland soil and water quality along the Rio Grande Valley. Submitted.

Dataset published:

Stover, D., J. McLaren, N. Pietrasiak, and L. Jin. 2024. Physical soil characteristics, microbial community composition, extracellular enzymatic activity, biologically based phosphorus (BBP) pools, and available phosphorus from two soil depths, four microhabitats, and four landforms at the Jornada Experimental Range, 2021. ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/9085a63e6ff1e310f13784b6fa0f8616> (Accessed 2024-06-06).

Published since 2021

- Kelson, J.R., Huth, T.E., Andrews, K., Bartleson, M.N., Cerling, T.E., **Jin, L.**, Salinas, M.P. and Levin, N. E (2024). Pedogenic carbonate as a transient soil component in a humid, temperate forest (Michigan, USA). Accepted in *Quaternary Research*.
- Nyachoti, S.K.*^{*}, Garcia, V.H.*^{*}, Monger, C., Tweedie, C., Gill, T.E., **Jin, L.** and Ma, L. (2024) Uranium-series and strontium isotope systematics in soil carbonates from dryland Critical Zones: Implications for soil inorganic carbon storage and transformation in natural and managed drylands. *Geochimica Cosmochimica et Acta*, 377 (15), 34-51, <https://doi.org/10.1016/j.gca.2024.05.020>
- Arora, B., Seybold, E. and Jin, L. (2024) Women in Critical Zone Science. *Frontier in Waters*. Special section: Water and Critical Zone, Volume 6, doi: 10.3389/frwa.2024.1404317
- Ortiz, A.*^{*}, **Jin, L.**, Ogrinc, N., Kaye, J., Krajnc, B. and Ma, L. (2022) Dryland irrigation increases accumulation rates of pedogenic carbonate and releases soil abiotic CO₂. *Scientific Reports*, 12: 464. DOI : 10.1038/s41598-021-04226-3.
- Brantley, S.L., Wen, T., Agarwal, D., Catalano, J.G., Schroeder, P.A, Lehnert, K., Varadharajan, C., Pett-Ridge, J., Engle, M., Castronova, A.M., Hooper, R.P., Ma, X., **Jin, L.**, McHenry, K.,

Aronson, E., Shaughnessy, A.R., Derry, L.A., Richardson, J., Bales, J. and Pierce, E.M. (2021) The future low-temperature geochemical data-scape as envisioned by the U. S. geochemical community. *Computers & Geosciences* 157 (2021) 104933. <https://doi.org/10.1016/j.cageo.2021.104933>

CONFERENCE ABSTRACTS since 2021 (+ postdoc scholar; *graduate student; **undergraduate student)

- Alfredo Dagda, Orlando Ramirez-Valle Sr, Hugo Alberto Gutiérrez-Jurado, Lixin Jin, Lin Ma, Mark Engle, and Anthony Darrouzet-Nardi (2024) Plant Water Use Strategies and Water Movement in Shallow Desert Soils of a Piedmont Site in High Temporal Resolution. American Geophysical Union annual meeting, Washington DC.
- Mark Engle, Christian Leach, Juan Navar, Angie Cano, Lin Ma, Anthony Darrouzet-Nardi and Lixin Jin (2024) Insights into recharge below dryland playas: Evidence from deep drilling, Red Lake Playa, New Mexico. American Geophysical Union annual meeting, Washington DC.
- Frida Garcia Ledezma¹, Jesus Manuel Ochoa-Rivero, Angel Ventura, Luisa Camacho-Medina¹, Mallory Salas, Katya Esquivel Herrera, Jessica Hartman, Lixin Jin and Lin Ma (2024) Understanding Trace Metal Uptake and Distribution in Pecan Trees (*Carya illinoensis*) of Southwestern Texas. American Geophysical Union annual meeting, Washington DC.
- Irene Shuk, Frida Garcia Ledezma, Jessica Hartman and Lixin Jin (2024) Biotic Influence on Calcite Accumulation: Examining the Impact of Tree Root Density on the Mineralization of Pedogenic Carbonates in Irrigated Dryland Ecosystems. American Geophysical Union annual meeting, Washington DC.
- Lin Ma, Angie Cano, Mallory Salas, Christian Leach, Mark Engle, Anthony Darrouzet-Nardi, and Lixin Jin. (2024) Understanding the impacts of agricultural irrigation on deep dryland critical zone: Pore water and soil chemistry from a 50-meter-deep core underneath a pecan orchard in western Texas. American Geophysical Union annual meeting, Washington DC.
- Talveer Singh*, Lixin Jin, Marguerite Mauritz and Anthony Darrouzet-Nardi (2024) Root Biomass and Soil Carbon (C) Response of a Pecan Orchard in the Chihuahuan Desert Across Contrasting Parent Materials. American Geophysical Union annual meeting, Washington DC.
- Angie Cano, Mallory Salas, Christian Leach, Mark Engle, Anthony J Darrouzet-Nardi, Lixin Jin, and Lin Ma (2024). Exploring Connectivity and Element Distribution in the Critical Zone Using Deep Cores Underneath Agricultural and Natural Drylands in American Southwest. American Geophysical Union annual meeting, Washington DC.
- Jennifer Herrera, Dave Bjorneberg, Jen Pierce, Dave Huber, Lixin Jin, Lin Ma (2024) Using Sr and U isotopic tracers to identify water flow paths and solute sources in agricultural areas in Idaho: understanding agrohydrology processes of Dryland Critical Zone. American Geophysical Union annual meeting, Washington DC.
- Jung-Chen Liu, Jennie McLaren, Nicole Pietrasiak, Lixin Jin, Anthony Darrouzet-Nardi, and Mengqiang Zhu. (2024) The Quantity and Quality of Calcium-Bound Organic Carbon in a Semi-Arid Ecosystem. American Geophysical Union annual meeting, Washington DC.
- Jesus Manuel Ochoa-Rivero, Hugo Alberto Gutiérrez-Jurado, Marguerite Mauritz, Katya Esquivel Herrera, Frida Garcia Ledezma, Luisa Camacho-Medina, Angel Ventura, Victoria Martinez, Anthony Darrouzet-Nardi, Alan Alvarez-Holguin, Federico Villarreal-Guerrero, Linda Citlali Noperi-Mosqueda, Omar Castor Ponce-Garcia, Orlando Ramirez-Valle Sr and Lixin Jin (2024) Do Trees in Dryland Agroecosystems Have Memory? Investigating The Ecophysiological Adaptations of Agroforests to Drought and Heatwaves Under the Modulating Influence of the Critical Zone Architecture. American Geophysical Union annual meeting, Washington DC.

- Hugo Alberto Gutiérrez-Jurado, Jesus Manuel Ochoa-Rivero, Luis Ubaldo Castruita-Esparza, Lixin Jin (2024) Resource-Rich Agroforests in Drylands as Laboratories of Trees' Sensitivity to Drought and Heat Stresses: Delving into the Long- and Short-Term Expressions of Tree Growth and Physiological Traits to Assess the Impacts of Drought and Heat on their Water and Carbon Cycling Dynamics. American Geophysical Union annual meeting, Washington DC.
- (Invited) Lixin Jin, Tanzila Hanif, Jen Pierce, Carmel Murillo, Dave Bjerneberg, Hugo Gutierrez. (2024) One tale of two dryland ecosystems: How does irrigation modify inorganic carbon dynamics in drylands? American Geophysical Union annual meeting, Washington DC.
- Anthony Darrouzet-Nardi, Briana A. Salcido, Elizabeth Andrews, Valeria Molina, Jessica Hartman, Talveer Singh, Hugo Gutierrez-Jurado, Marguerite Mauritz, Lixin Jin. (2024) Soil CO₂ efflux in dryland soils - biotic vs. abiotic production and diffusive vs. advective transport. American Geophysical Union annual meeting, Washington DC.
- Lixin Jin, Frida Garcia Ledezma**, Talveer Singh*, Jessica Hartman*, Anthony Darrouzet-Nardi, and Marguerite Mauritz-Tozer (2024). Is pedogenic carbonate a signal and precursor of elevated soil salinity in irrigated agricultural fields of drylands? Geological Society of American annual meeting, Anaheim, CA.
- (invited) Lixin Jin, Elizabeth Andrews⁺, Jesus Ochoa-Rivero*, Jessica Hartman*, Hugo Gutiérrez Jurado, Mark Engle, Lin Ma (2024). Modelling the salinity buildup and understanding tree stress in a changing climate at a pecan orchard in Tornillo, TX: is dryland irrigation sustainable at American southwest? Geological Society of American annual meeting, Anaheim, CA.
- Li Li, Alexis Navarre-Sitchler, Pam Sullivan, Kamini Singha, Holly R. Barnard, Lin Ma, Julia Perdrial, Lixin Jin. (2024) Critical Zone Science at The Convergence of Disciplines, People, Place, and Scales. Goldschmidt conference, Chicago, IL.
- Julia R Kelson, Naomi E Levin, Kirsten Andrews, Miriam Bartleson, Hugo A Gutierrez, David P Huber, Lixin Jin, Christian Leach, Daeun Lee, Kathleen Lohse, Greg Maurer, Jen Pierce, and Scott Robbins. The distribution of triple oxygen isotopes in soil pore waters from three desert sites in the Western US (2024). Goldschmidt conference, Chicago, IL.
- (invited)Lixin Jin, Elizabeth Andrews⁺, Aimee Garcia*, Michelle Quiroz**, Valeria Molina*, Orlando Ramirez-Valle*, Jesus Manuel Ochoa-Rivero*, Kristina Sasser*, Manny Sosa*, Viridiana Orona*, Jessica Hartman*, Galen Kaip, Mark Baker, Diane Doser, Hugo Gutierrez, Mark Engle, Anthony Darrouzet-Nardi and Lin Ma (2024) Evaluating the ecosystem resilience of irrigated drylands using a critical zone approach in western Texas. Goldschmidt conference, Chicago, IL.
- Anthony Darrouzet-Nardi, Aimee Garcia*, Briana Salcido*, Viridiana Orona*, Talveer Singh*, Jessica Hartman*, Valeria Molina*, Katya Esquivel-Herrera*, Liz Andrews⁺, Marguerite Mauritz, Lixin Jin (2024). Dual carbon cycling regimes linked to soil textures within a pecan orchard in the Chihuahuan Desert show different levels of influence by biological, physical, and geochemical processes. Ecological Society of America annual meeting, Long Beach, CA.
- Beth Boyer, Lixin Jin and others (2024). Exploring Earth's Critical Zone Through the U.S. Critical Zone Collaborative Network. European Geophysical Union annual conference, Vienna, Austria.
- Hugo Alberto Gutiérrez-Jurado¹, Jesus Manuel Ochoa-Rivero, Orlando Ramirez-Valle Sr, Maria Carmen Delgado-Gardea, Maria del Rocio Infante-Ramirez, Luis Ubaldo Castruita-Esparza, Noe Chavez-Sanchez, Lixin Jin, Lin Ma and Mark Engle. (2023) What Drives Trees Nuts? A multi-temporal, multi-scale and multi-disciplinary look at stress sources of water-subsidized trees in dryland agroecosystems of North America and their impact on the regional water use and conservation. American Geophysical Union Annual conference, San Francisco, CA.
- Hanif, Tanzila*, Pierce, Jennifer, Huber, D. Jin, Lixin, Reynard, Linda, Rittenour, Tammy, and Ma, Lin. (2023) Rates and processes of soil inorganic carbon formation in natural and

- managed cool semi-arid ecosystems. Geological Society of American annual meeting, Pittsburgh, PA.
- Isabelle Anselmo, Anthony Darrouzet-Nardi, Lixin Jin, Talveer Singh, Victoria Martinez, Lindsey Dacey, Frida Garcia Ledezma, Isabel Uribe, Marguerite Mauritz-Tozer. (2023) Soil texture interactions with root biomass in a western Texas pecan orchard. COURI symposium, UTEP, El Paso, TX.
- Jesus Manuel Ochoa-Rivero, Hugo Alberto Gutiérrez-Jurado, Federico Villarreal-Guerrero, Alan Alvarez-Holguin, Omar Castor Ponce-Garcia, Jesus Antonio Olvias-Rodriguez, Linda Citlali Noperi-Mosqueda, Orlando Ramirez-Valle, Lixin Jin, Mark Engle, Lin Ma. (2023) Investigating physiological responses of Pecan trees (*Carya illinoensis*) to water sources and soil properties under heat wave conditions in agroecosystems of the Chihuahuan Desert. American Geophysical Union Annual conference, San Francisco, CA
- Katya Esquivel Herrera, Marguerite Mauritz, Lixin Jin, Hugo Alberto Gutiérrez-Jurado (2023). Evapotranspiration Estimates Derived from an Established Hybrid Machine Learning Model in Natural and Managed Dryland Sites. American Geophysical Union Annual conference, San Francisco, CA.
- Elizabeth W. Boyer, Emma Aaronson, Holly Barnard, Steven Holbrook, Lixin Jin, Praveen Kumar, Deanna McCay, Holly Michael, Jeff Munroe, Julia Perdrial, Jordan Read, Claire Welty (2023). CZNet: the United States Critical Zone Collaborative Network. American Geophysical Union Annual conference, San Francisco, CA.
- Julia Perdrial, Benjamin W. Abbott, Dustin Kincaid, Gabrielle Boisrame, Lauren Lowman, Lixin Jin, Erin Seybold, Camden Hatley, Holly Micheal, Dawson Dawn Fairbanks, Elizabeth Andrews, Beth Boyer, Ashlee Dere, Lin Ma, Jamie Shanley, Deidre Wheaton, Niara Hicks, Li Li, Bren Cable, Nathaniel Spicer (2023). Exploring patterns and processes of Critical Zone (CZ) multidimensional resilience across the CZ collaborative network. American Geophysical Union Annual conference, San Francisco, CA.
- Jessica Hartman, Mark Engle, Lin Ma and Lixin Jin. (2023) Irrigation Water Chemistry as a Control for Pedogenic Carbonate Accumulation in Irrigated Agricultural Soils, West Texas, USA. American Geophysical Union Annual conference, San Francisco, CA.
- Kristina Sasser, Mark Engle, Aracely Garcia, Diane Irene Doser, Mark R Baker, Lixin Jin, Jessica Hartman (2023). Using Shallow Electromagnetic Techniques to Map Soil Properties and Soil Water Distribution in Dryland Critical Zones. American Geophysical Union Annual conference, San Francisco, CA.
- Lin Ma, Syprose Nyachoti, Victor Garcia, Curtis Monger, Craig Tweedie, Tom Gill and Lixin Jin. (2023) U-series and Sr isotope systematics in soil carbonates from natural and managed dryland Critical Zones: Implications for inorganic carbon storage and transformation in dryland soils of the American Southwest. Goldschmidt Conference, Lyon, France.
- Elizabeth Andrews⁺, Anna Ortiz, Valeria Molina*, Jason Kaye, Anthony Darrouzet-Nardi, Lixin Jin. (2023) Soil CO₂ dynamics in flood irrigated arid agricultural fields: temporal variability of abiotic and biotic CO₂ production and transport. Goldschmidt Conference, Lyon, France.
- Lixin Jin, Jessica Hartman*, Katya Esquivel Herrera*, Santosh Palmate⁺, Marguerite Mauritz-Tozer, Saurav Kumar and Girisha Ganjegunte. (2023) Development of multiple-scale sensor and remote sensing technology to quantify carbon dioxide emission associated with pedogenic carbonate accumulation in irrigated soils of aridlands. Goldschmidt Conference, Lyon, France.
- Santosh S. Palmate⁺, Saurav Kumar, Girisha K. Ganjegunte, Lixin Jin, Marguerite, E. Mauritz-Tozer, Katya Esquivel Herrera*, Abbey Johnson, and Jessica Hartman* (2023). High-resolution evapotranspiration mapping of arid pecan orchard using aerial remote sensing data. World Environmental & Water Resources Congress. Henderson, NV.
- Saurav Kumar, Santosh S. Palmate, Abbey S. Johnson, Jessica Hartman*, Katya Esquivel Herrera*, Marguerite E. Mauritz, Girisha K. Ganjegunte, Lixin Jin (2023) Multiple-scale

- sensor and remote sensing technology to quantify abiotic carbon dioxide emission in irrigated soils of aridlands. World Environmental & Water Resources Congress. Henderson, NV.
- Alfredo Dagda*, Orlando Ramirez-Valle*, Martha Gardea*, Hugo Alberto Gutierrez-Jurado, Lin Ma, Mark Engle, Lixin Jin. (2022) Investigating Evapotranspiration Partitioning Dynamics of Shallow Desert Soils of a Piedmont Site in High Temporal Resolution. American Geophysical Union annual meeting, Chicago, IL.
- Hugo Alberto Gutierrez-Jurado, Orlando Ramirez-Valle*, Lixin Jin. (2022) The effects of climate-driven stresses and the critical zone architecture on the water use dynamics of irrigated orchards in arid lands. American Geophysical Union annual meeting, Chicago, IL.
- Katya Esquivel Herrera*, Marguerite Mauritz, Lixin Jin, Saurav Kumar, Girisha K. Ganjgunte. (2022) Establishing Satellite-Derived Vegetation Index Baselines to Understand Pecan Orchard Water-Stress and Productivity in an Arid Environment. American Geophysical Union annual meeting, Chicago, IL.
- Briana Alyce Salcido*, Anthony Darrouzet-Nardi, Valeria Molina*, Lixin Jin. (2022) Temporal Trends in Dryland Soil Carbon Fluxes in Response to Artificial and Natural Pulsed Moisture Events. American Geophysical Union annual meeting, Chicago, IL.
- Julia Kelson, Naomi E. Levin, Ronald Amundson, Miriam Bartleson, Bruce Finney, Martha Gardea, Hugo A. Gutiérrez-Jurado, David P. Huber, Lixin Jin, Kyle LaCoursiere, Christian Leach, Kathleen A. Lohse, Gregory E. Maurer, H. Curtis Monger, Jennifer L. Pierce, Scott Robbins, Mark Seyfried, Dylan Thompson. (2022) Triple Oxygen Isotopes of Pedogenic Carbonates Reveal the Varied Role of Evaporation in Western US Drylands. American Geophysical Union annual meeting, Chicago, IL.
- Kristina L. Sasser*, Mark A. Engle, Aracely Garcia**, Diane Doser, Mark Baker, Lixin Jin. (2022) Mapping Vadose Zone Hydrology and Soil Properties in Dryland Critical Zones with High Infiltration Using Shallow Electromagnetic and Magnetic Techniques. American Geophysical Union annual meeting, Chicago, IL.
- Liz Andrews⁺, Li Li, Valeria Molina*, Jessica Hartman*, Lin Ma, Mark Engle, and Lixin Jin, (2022) Applying the critical zone approach to understand dryland agriculture and flood irrigation impacts on soil quality, water dynamics, and gas transport. American Geophysical Union annual meeting, Chicago, IL.
- Darrouzet-Nardi, A., Salcido, B.*, Orona, V.*, Molina, V.*, Hanif, T*., Ghahremani, Z.*, Pierce, J., Huber, D., Flerchinger, G., Tweedie, C., Bjerneberg, D. and Mauritz, M. Jin, L., (2022). Carbon cycling through the critical zone in irrigated and unirrigated drylands. American Geophysical Union annual meeting, Chicago, IL.
- Hartman, J.* and Jin, L. (2022) Calcite accumulation rates estimated from ¹⁴C ages in irrigated dryland agricultural soils. The Geological Society of American annual meeting, Denver, CO. <https://doi.org/10.1130/abs/2022AM-383910>
- Stover, D.*, N. Pietrasiak, A. Dominguez, L. Jin, M. Lafón, K. Merrill, and J. McLaren, (2022) Soil depth, landform, and microhabitat as influences on organic phosphorus in the Chihuahuan Desert. LTER all hands meeting, Volume Asilomar, CA,
- Huber, D.⁺, Finney, B.P., Commendador, A., Ghahremani, Z., Kelson, J.R., Jin, L., Germino, M.J. and Lohse, K.A. (2022). Rapid change in soil carbonates: discerning ecohydrological and anthropogenic drivers using geochemical and isotopic techniques. The Geological Society of American annual meeting, Denver, CO. <https://doi.org/10.1130/abs/2022AM-382269>
- Hanif, Tanzila*, Huber, David P.⁺, Jin, Lixin, Rittenour, Tammy M. and Pierce, Jennifer (2022) Estimation of the amount and rate of pedogenic carbonates accumulation in irrigated and non-irrigated dryland soils of SW Idaho. The Geological Society of American annual meeting, Denver, CO. <https://doi.org/10.1130/abs/2022AM-382274>
- Ghahremani, Zahra*, Pierce, Jennifer, Huber, David P.⁺, Jin, Lixin, Ma, Lin and Engle, Mark. (2022) Carbon sequestration in a cold desert ecosystem: use of geochemical techniques to

- determine calcium provenance and soil carbonate formation in dryland. The Geological Society of American annual meeting, Denver, CO. <https://doi.org/10.1130/abs/2022AM-381241>
- Gutierrez-Jurado, H.A., Ramirez-Valle Sr, O.*, Méndez-Barroso, L.A., Yepez, E.A., Uuh-Sonda, J., Jin, L., Ma, L. (2022) Assessing the productive vs unproductive water use in annual and perennial crops under furrow irrigation through a data-fusion scheme that partitions evapotranspiration fluxes using remote sensing and ground-based meteorological data. The Frontiers In Hydrology Meeting, Puerto Rico.
- Jin, L. and Darrouzet-Nardi, A. (2022) Patterns and controls of CO₂ fluxes, ecohydrology, and nutrient availability on the carbonate-dominated dryland Critical Zones. Critical Zone Network All hands meeting, University of Delaware, August 2022.
- Quiroz M**, Garcia A, Molina V*, Ramirez-Valle O*, Sosa M*, Orona V*, Kaip G, Doser D, Engle M, Gutierrez H, Darrouzet-Nardi A, Ma L & Jin L. (2022) Tree Size as a Proxy of Texture and Soil Salinity in a Pecan Orchard: Exploring the Spatial Variability and Dominant Controls on Carbon Fluxes in Managed Dryland Critical Zone. Goldschmidt Conference, Honolulu, HI. <https://doi.org/10.46427/gold2022.11333>
- Hanif, T.*, Huber, D.P., Jin, L., Finney, B., Ghahremani, Z.*, and Pierce, J. (2022) Do drylands soils act as a net sink of CO₂ to reduce atmospheric CO₂ in the global carbon cycle? Sectional Geological Society of America meeting, Las Vegas, NV.
- Molina, V.*, Ma, L., Engle, M., Darrouzet-Nardi, A., Kaye, J. and Jin, L. (2022) Differentiating biotic vs. abiotic CO₂ in the formation of pedogenic carbonate in an agriculturally altered site. Sectional Geological Society of America meeting, Las Vegas, NV.
- Quiroz, M**, Molina, V.*, Garcia, A.*, Doser, D. and Jin, L. (2022) A survey of tree size in a pecan orchard as a proxy of carbon flux, soil salinity and texture. Sectional Geological Society of America meeting, Las Vegas, NV.
- Dagda, A.*, Ramirez-Valle, O.*, Gardea, M.*, Gutierrez-Jurado, H.A., Jin, L., Ma, L. and Engle, M. (2021) Dynamics of Plant Water Use and Water Movement in Shallow Desert Soils of a Piedmont Site: Insights From an Integrated Hydro-Geophysics-Geochemical Approach of a Highly Dynamic Shallow Dryland Critical Zone. American Geophysical Union Annual Meeting, New Orleans, LA.
- Orlando Ramirez-Valle*, Gutierrez-Jurado, H.A., Dagda, A.*, Gardea, M.*, Jin, L. and Ma, L. (2021). Quantifying water stress and productive vs non-productive water use in the critical zone of dryland agricultural areas with alternating surface and groundwater irrigation: lessons learned from a combined remote sensing and groundwater data analysis. American Geophysical Union Annual Meeting, New Orleans, LA.
- Ma, L., Engle, M.A., Valenzuela, N.*, Gutierrez, H.A., Doser, D., Baker, M.R., Darrouzet-Nardi, A., and Jin, L. (2021) Exploring Controls by Pedogenic Carbonates as a Critical Interface on Water, Carbon and Nutrient Interactions in Drylands: Initial Insights from the Dryland Critical Zone Network Cluster. American Geophysical Union Annual Meeting, New Orleans, LA.
- Jin, L., Ortiz, A., Molina, V.*, Garcia, A.*, Orona, V.*, Quiroz, M**, Kaye, J., Doser, D., Ma, L., Darrouzet-Nardi, A. (2021) Controls, rates, and impacts of enhanced calcite accumulation and abiotic CO₂ emission in irrigated drylands. American Geophysical Union Annual Meeting, New Orleans, LA.
- Tafoya, A**, Tovar, K.*, Lafon, M**, Merrill, K**, Tellez, T**, Dominguez, A**, McLaren, J., Jin, L., Pietrasiak, N. (2021) Disentangling carbon, phosphorus, and microbiomes of desert shrub, grass, and interspace soils in a dryland piedmont landscape. Soil Science Society of American annual meeting, virtual meeting.
- Garcia, A.*, Orona, V.*, Quiroz, M**, Doser, D.I., Darrouzet-Nardi, A., Jin, L. (2021). Using Geophysics to Investigate Soil Texture and Characterize spatial variability in soil CO₂ effluxes in an Irrigated Pecan Orchard in the Rio Grande Valley of West Texas. Geological Society of America annual conference, Portland, OR.

Pierce, J., Huber, D., Ghahremani, Z.*, Molina, K.**, Minich, B.**, Kacoursiere, K.**, Hanif, T.*, Flerchinger, G., Bjorneberg, D. and Jin, L. (2021) Are pedogenic carbonates in dryland soils a solution to climate change? Evaluating the amounts, rates and processes of carbonate formation in agricultural and natural critical zone systems. Geological Society of America annual conference, Portland, OR. <https://doi.org/10.1130/abs/2021AM-367817>.