Dr. Jiawei Da

Jackson School of Geosciences, The University of Texas at Austin

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EDUCATION

Nanjing University, China 2013-2020

Ph.D. in Geology

Thesis Title: "Quantitative reconstruction of paleoatmospheric CO_2 levels using pedogenic carbonates from the Chinese Loess Plateau"

Advisor: Dr. Junfeng Ji

Jilin University, China 2008-2012

B.A. in Geology

PROFESSIONAL EXPERIENCE

Postdoctoral Research Fellow August 2022-now

The University of Texas at Austin, Jackson School of Geosciences

Postdoctoral researcher September 2020-July 2022

Nanjing University, School of Earth Sciences and Engineering

Research Assistant August 2015-August 2020

Nanjing University, Key Laboratory of Surficial Geochemistry, Ministry of Education

HONORS AND AWARDS

NSF CO_2PIP Project Postdoctoral Fellowship 2022

NSF-China Earth Sciences Postdoctoral Fellowship 2021

Best Doctoral Dissertation Award, Nanjing University 2021

Li Siguang Outstanding Ph.D. Candidate Award 2020

National award to five selective Ph.D. candidates majored in Geology per year in recognition of high academic achievements

Outstanding Ph.D. student, Nanjing University 2020

Program A for outstanding Ph.D. students, Nanjing University 2018

First Prize of National Scholarship 2015

PEER-REVIEWED PUBLICATIONS

1. **Da, J.**, Li, G., Ji, J., Overestimate of C_4 plant abundance caused by soil degradation-induced carbon isotope fractionation, *Geophysical Research Letters*, 2021, 48(24): e2021GL093407

2. **Da, J.**, Zhang, Y. G., Li, G., Ji, J., Aridity-driven decoupling of $\delta^{13}C$ between pedogenic carbonate and soil organic matter, *Geology*, 2020, 48(10): 981-985.

3. **Da, J.**, Zhang, Y. G., Li, G., Meng, X., Ji, J., Low CO_2 levels of the entire Pleistocene Epoch, *Nature Communications*, 2019, 10(1): 1-9.

4. **Da, J.**, Zhang, Y. G., Wang, H., Balsam, W., Ji, J., An Early Pleistocene atmospheric CO_2 record based on pedogenic carbonate from the Chinese loess deposits, *Earth and Planetary Science Letters*, 2015, 426: 69-75.

PUBLICATIONS IN REVIEW AND PREPARATION

1. **Da, J.**, Li, G.K., Ji, J., Oxygen isotopes reveal seasonal changes in the formation time of pedogenic carbonates from the Chinese Loess Plateau (under review)

2. **Da, J.**, Zhang, Y. G., Li, G.K., Breecker, D.O., Ji, J., The continual decline in glacial CO_2 during the Pleistocene epoch (in prep)

3. **Da, J.**, Li, G.K., Li, T., Li, G., Breecker, D.O., Lu, H., Ji, J., Pliocene hydroclimate variability over East Asia inferred by calcite nodule geochemistry (in prep)

CONFERENCE PRESENTATION

J. Da, Y.G. Zhang, G.K. Li, J. Ji, Reconstructing Pleistocene atmospheric CO_2 levels using pedogenic carbonates from the Chinese Loess Plateau, The 2022 INQUA LoessFest, Virtual (2022)

J. Da, G.K. Li, J. Ji, Carbon isotope fractionation during the burial and decomposition of soil organic matter – evidence from the paleosols on the Chinese Loess Plateau, Talk, 8th biology and organic geochemistry conference, Xiamen, China (2021)

J. Da, J. Ji, Quantitative constraint of the effect of atmospheric CO_2 on the C isotopic compositions of pedogenic carbonates on the Chinese Loess Plateau, Talk, the 6th conference

on Earth System Science, Shanghai, China (2021)

J. Da, Y.G. Zhang, G. Li, X. Meng, J. Ji, Refining the paleosol-CO_2 proxy and the reconstruction of early-Pleistocene CO_2 levels, Talk, Goldschmidt virtual (2020)

J. Da, J. Ji, Reconstructing past atmospheric CO_2 levels with pedogenic carbonates from the Chinese loess deposits, Poster, Goldschmidt Yokohama, Japan (2016)

INVITED TALK

1. Reconstructing past atmospheric CO_2 levels with pedogenic carbonates from the Chinese loess deposits, *Weather, Climate, Earth seminar, Jackson School of Geosciences, The University of Texas at Austin*, August 2022

FIELD EXPERIENCE

Chinese Loess Plateau June 2021

Led field trips to Shilou, Shanxi Province, where bulk paleosol and calcite nodule samples were systematically collected from a Miocene-Pliocene red clay formation (8.0-2.6 Ma).

Xorkol Basin July 2019

Led field trips to Xorkol Basin, Mount Altai at the northeastern Tibetan Plateau, where paleosol and calcite nodule samples were collected from an Eocene eolian deposit.

Chinese Loess Plateau June 2018

Led field trips to Fuxian, Shaanxi Province, where we retrieved a 210-m drill core including the entire Quaternary loess-paleosol sequence.

Qujing, Yunnan January 2018

Participated in field trips to Qujing, Yunnan Province, where we collected samples of paleosols, calcite nodules, and fossil leaves from the early Devonian Xujiachong Formation.

Chinese Loess Plateau November 2017

In collaboration with the Institute of Earth Environment, Chinese Academy of Sciences, we built a modern soil profile observation site in Yan'an, Shaanxi Province, located at the center of the Loess Plateau.

Chinese Loess Plateau July-August 2016

We traversed through the Loess Plateau, and collected bulk paleosol and calcite nodule samples from six Holocene soil profiles along a south-north transect.

Chinese Loess Plateau August-October 2014

Participated in field trips to multiple regions on the Loess Plateau, where bulk paleosol and calcite nodule samples were systematically collected from a Miocene-Pliocene red-clay formation located in Qing'an, Gansu Province, and a Quaternary loess-paleosol sequence located in Lantian, Shaanxi Province.

SKILL SETS

- Experienced operator of IRMS, EA, SEM, FTIR, and Raman machines.
- Skilled wet chemistry lab operater, including various sample digestion techniques (e.g. sediment, soil and water), trace element cleaning.
- Expertise in Matlab, R, CorelDRAW, ArcGIS.
- Languages: Chinese (native speaker), English (proficient).

Membership

Geological Society of America	2022-Present
American Geophysical Union	2020-Present
Geochemical Society	2016-Present

Services

- Reviewer for *Science Advances*, *Paleoecology, Paleoclimatology, Paleogeography,* and *Scientific Report*.
- Active members of the community project CO_2 Proxy Integration Project funded by the FRES at the NSF, with the goal of building the next-generation paleo-CO_2 record for the Phanerozoic.