Yiming Zhang

Curriculum Vitae

Department of Earth and Planetary Science
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EDUCATION

Ph.D., Earth and Planetary Science, University of California, Berkeley 2024

B.A, cum laude., Geology, Occidental College 2019

PUBLICATIONS
(* indicates mentored student)

Zhang, Y., Anderson, N.S.*, Mohr, M.T., Nelson, L.L., Macdonald, F.A., Schmitz, M.D., Thurston, O.G., Guenthner, W.R., Karlstrom, K.E., and Swanson-Hysell, N.L., (in review),Paleomagnetism of the southwest Laurentia large igneous province and Cardenas Basalt: pulsed magmatism during rapid late Mesoproterozoic plate motion, Submitted to: JGR Solid Earth.

Zhang, Y., Hodgin, E.B., Alemu, T., Pierce, J.*, Feuntes, A., and Swanson-Hysell, N.L., (2024), Tracking Rodinia into the Neoproterozoic: new paleomagnetic constraints from the Jacobsville Formation, Tectonics. https://doi.org/10.1029/2023TC007866

Mohr, M.T., Schmitz, M.D., Swanson-Hysell, N.L., Karlstrom, K.E., Macdonald, F.A., Holland, M.E., **Zhang, Y**., Anderson, N.*, (2024), High-Precision U-Pb geochronology links magmatism in the SW Laurentia Large Igneous Province and Midcontinent Rift. Geology. https://doi.org/10.1130/G51786.1

Sapienza, F., Gallo, L.S., **Zhang, Y**., Vaes, Bram., Domeier, Mathew., Swanson-Hysell, N.L., (2023), Quantitative Analysis of Paleomagnetic Sampling Strategies. JGR Solid Earth. https://doi.org/10.1029/2023jb027211

Gallo, L. C., Domeier, M., Sapienza, F., Swanson-Hysell, N. L., Vaes, B., **Zhang, Y**., Arnould, M., Eyster, A., Gu¨rer, D., Kir´aly, A´., Robert, B., Rolf., T., Shephard, G., and van der Boon, A., (2023), Embracing uncertainty to resolve polar wander: a case study of Cenozoic North America, Geophysical Research Letters. https://doi.org/10.1029/2023GL103436

Slotznick, S.P., Swanson-Hysell, N.L., **Zhang, Y**., Clayton, K.E., Wellman, C.H., Tosca, N.J., and Strother, P.K., (2023), Reconstructing the paleoenvironment of an oxygenated Mesoproterozoic shoreline and its record of life, GSA Bulletin. https://doi.org/10.1130/B36634.1

Pierce, J.*, **Zhang, Y**., Hodgin, E.B., and Swanson-Hysell, N.L., (2022), Quantifying inclination shallowing and representing flattening uncertainty in sedimentary paleomagnetic poles, Geochemistry, Geophysics, Geosystems. https://doi.org/10.1029/2022GC010682

Rose, I., **Zhang, Y**., and Swanson-Hysell, N.L., (2022) Bayesian paleomagnetic Euler pole inversion for paleogeographic reconstruction and analysis, JGR: Solid Earth. https://doi.org/10.1029/2021jb023890

Zhang, Y., Swanson-Hysell, N.L., Avery, M.S., Fu, R.R., (2022), High geomagnetic field intensity recorded by anorthosite xenoliths requires a strongly powered late Mesoproterozoic geodynamo. PNAS. https://doi.org/10.1073/pnas.2202875119

Hodgin, E.B., Swanson-Hysell, N.L., DeGraff, J.M., Kylander-Clark, A.R.C., Schmitz, M.D., Turner, A.C., **Zhang, Y**., Stolper, D.A., (2022), Final inversion of the Midcontinent Rift during the Rigolet Phase of the Grenvillian Orogeny. Geology. https://doi.org/10.1130/G49439.1

Cromwell, G., **Zhang, Y**., (2021), New paleointensity data from Aniakchak volcano, Alaska, USA. Geochemistry, Geophysics, Geosystems. https://doi.org/10.1029/2021gc010032

Zhang, Y., Swanson-Hysell, N.L., Schmitz, M.D., Miller Jr., J.D., and Avery, M.S., (2021), Synchronous emplacement of the anorthosite xenolith-bearing Beaver River diabase and one of the largest lava flows on Earth. Geochemistry, Geophysics, Geosystems. https://doi.org/10.1029/2021GC009909

Swanson-Hysell, N.L., Avery, M.S., **Zhang, Y**., Hodgin, E.B., Sherwood, R.J., Apen, F.E., et al., (2021). The paleogeography of Laurentia in its early years: new constraints from the Paleoproterozoic East Central Minnesota batholith. Tectonics. https://doi.org/10.1029/2021TC0067511

Swanson-Hysell, N.L., Hoaglund, S.A., Crowley, J.L., Schmitz, M.D., **Zhang, Y**., and Miller Jr., J.D., (2020), Rapid emplacement of massive Duluth Complex intrusions within the Midcontinent Rift. Geology. https://doi.org/10.1130/g47873.1

Zhang, Y., Pairing paleointensity results with coercivity spectra: providing support for selection criteria. *IRM Quarterly. Volume 30. Number 1.*

TALKS

UC Berkeley EPS exit seminar — April 25, 2024
Reconstructing late Proterozoic magmatism, geomagnetic field behavior, and paleogeography using tiny magnets in rocks

2023 AGU Fall Meeting — Dec 5 2023
Constraining the position of Arabian-Nubian arc terranes in the lead-up to Snowball Earth glaciation: new constraints from Tonian dikes of Oman

Institute of Geology and Geophysics seminar, Chinese Academy of Science (invited) — July 5 2023
New approaches to APWP synthesis and incorporating uncertainties in sedimentary records

2023 IRM conference (invited) — June 5-June 8 2023
New approaches to apparent polar wander path development constrain the late Mesoproterozoic assembly of Rodinia

2023 MagIC workshop (invited) — Feb 28-Mar 2 2023
New perspectives on Laurentia's Grenville Loop: tracking Rodinia across the Mesoproterozoic to Neoproterozoic boundary

2022 AGU Fall Meeting — Dec 12-16 2022
Reconstructing the position of the supercontinent Rodinia in the early Neoproterozoic: new constraints from Laurentia's interior and the Grenville margin

Beijing Paleomagnetism and Geochronology Laboratory (invited, online) — Sep 28 2022
High geomagnetic field intensity recorded by anorthosite xenoliths requires a strongly powered late Mesoproterozoic geodynamo

Young CEED 21 Frontiers in quantitative paleogeography (*invited, online)* *Nov 14-20 2021*
Bayesian_PEP_inversion: a Bayesian framework for integrating paleomagnetic and geochronologic data into apparent polar wander inversion

Grand Canyon Supergroup Field Forum (*invited)* *April 9-19 2021*
The rich paleomagnetic record of the Mesoproterozoic Midcontinent Rift and the Southwestern Laurentia LIP

Cloud Meeting on Paleomagnetism (*online)* *1/29/2021*
Intense magmatic activity and a strong geomagnetic field -a study on the anorthosite xenoliths hosted in the Mesoproterozoic Midcontinent Rift diabase

2020 AGU Conference (*online)* *12/15/2020*
Recovering Mesoproterozoic geomagnetic field intensity using anorthosite xenoliths hosted in Midcontinent Rift diabase

North Central GSA Conference, Duluth, MN (*online)* *05/18/2019*
The rich paleomagnetic records of Proterozoic Midcontinent Rift intrusives: an updated synthesis with a new pole from the Beaver River diabase

Institute for Rock Magnetism, University of Minnesota, Minneapolis, MN (*invited)* *01/09/2019*
Paleomagnetism and rock magnetism on the Beaver River diabase and anorthosite xenoliths therein

TEACHING

Graduate student instructor (GSI) for EPS 101 Field Geology and Digital Mapping Fall 2023
Advisor: Matthew Gleeson

Reader for EPS 88 PyEarth: A Python Introduction to Earth Science Spring 2023
Advisor: Nicholas Swanson-Hysell

GSI for EPS 101 Field Geology and Digital Mapping Fall 2022
Advisor: Nicholas Swanson-Hysell

Reader for EPS 115 Stratigraphy and Earth History Spring 2022
Advisor: Eben Blake Hodgin

GSI for EPS 101 Field Geology and Digital Mapping Fall 2021
Advisor: Nicholas Swanson-Hysell

GSI for EPS 50 The Planet Earth Spring 2021
Advisor: Daniel Stolper

Participant in the Graduate Remote Instruction Innovation Fellows Program Winter 2020

GSI for EPS 101 Field Geology and Digital Mapping Fall 2020
Advisor: Nicholas Swanson-Hysell

Completion of UC Berkeley GSI Conference training Jan 2020

Completion of required Online Course: Professional Standards and Ethics for GSIs Fall 2019

Completion of required Pedagogy Course EPS 375 Fall 2019

ORIGINAL GEOLOGICAL FIELD WORK

Oman [2 weeks] 2024
Constraining the position of Arabian-Nubian arc terranes in the lead-up to Snowball Earth glaciation through Tonian dikes of Oman

Grenville orogen [3 weeks] 2022, 2023
Pairing paleomagnetic data and thermochronology records to reevaluate the exhumation history of rocks of the Grenvillian Orogeny and recalibrate the Grenville Loop.

Death Valley, California; Grand Canyon, Arizona [4 weeks] 2021
Using paleomagnetism and geochronology to study the temporal and magnatic relationship between the ca. 1.1 Ga Southwestern Laurentia Large Igneous Province and the Midcontinent Rift.

Pikes Peak, Colorado [2 weeks] 2020
Using paleomagnetism and geochronology to study the emplacement history of Pikes Peak batholith and its temporal and magmatic associations with the Midcontinent Rift 1.1 billion years ago.

Midcontinent Rift, Lake Superior Region [11 weeks] 2019, 2020, 2021
Reconstructing the behavior of the Mesoproterozoic geomagnetic field, continental motion during supercontinent assembly and the nature of ancient environments through paleomagnetic studies of the intrusive rocks and sediments of the 1.1 billion-year-old Midcontinent Rift.

Central Highland, Iceland [3 weeks] 2019
Qualitatively and quantitatively measure the erosion rate of rofabards soil erosion in Central highlands, Iceland

AWARDS AND FUNDING

UC Berkeley graduate student conference travel grant ($900) 2023
2023 Geochronology Gordon Research Conference

UC Berkeley Earth and Planetary Science George C. Louderback Award 2023

2023 AGeS3-Grad Geochronology Award ($8,865) 2023
Dating the Grenville Loop using U-Pb apatite thermochronology

2022 GSA Graduate Student Research Grant ($1,749) 2022
Paleomagnetism and thermochronology of the Adirondack Mountains, Grenville Province

UC Berkeley graduate student conference travel grant ($900) 2022
2022 AGU Fall Meeting oral presentation

Hearts to Humanity Eternal (H2H8) Programs ($10,000) 2022
H2H8 Association Graduate Research Grant to Advance Humanity through Science

U.S. Visiting Student Fellowships, Institute for Rock Magnetism 2019
Paleomagnetism and rock magnetism study on Mesoproterozoic Beaver Bay Complex and anorthosite xenoliths therein ($500)

ILSG Student Research Fund, Institute on Lake Superior Geology 2019
To study the emplacement history of the Beaver River diabase and the anorthosite xenoliths therein using paleomagnetism ($500)

Chevron-Xenel Gateway Fellowship, Berkeley International House ($5,000) 2019

John Parke Young Student Grant, Occidental College 2019
Using UAV Data for Monitoring Modern Rofabard Soil Erosion in Central Highlands, Iceland ($3,500)

Independent research, Occidental College 2018
Pseudo-Thellier Paleointensity Measurement on R-N Geomagnetic Polarity Reversal Recorded by Mafic Lava Flows, Anahola, Kauai ($4,000)

Independent research, Henry Luce Foundation, Nanjing Univeristy 2017
Mapping of Ambient Ozone Pollution in China and the Assessment of Its Health Impact on Socio-Economy ($2,250)

SERVICE

Contributing developer to the open source PmagPy software project (`https://github.com/PmagPy/PmagPy`).

Reviewer for the following journals
Earth and Planetary Science Letters
Geochemistry, Geophysics, Geosystems
Science Bulletin

MEMBERSHIPS

American Geophysical Union (AGU)
Geological Society of America (GSA)