Stanford

Jihui Ding

Physical Science Research Scientist

Earth & Planetary Sciences

Bio

BIO

Jihui is interested in advancing sustainability by developing geoscience-based solutions. This includes geothermal energy, carbon capture and sequestration (CCS), geological storage of renewable energy, and critical mineral exploration. Previously, Jihui utilized various experimental techniques to quantify rock behavior under different geological conditions and used modeling approaches to understand experimental observations. Currently, he is working on integrating artificial intelligence and data science into geological uncertainty quantification for an economical and safe development of geothermal energy.

ACADEMIC APPOINTMENTS

- Physical Science Research Scientist, Earth & Planetary Sciences

PROFESSIONAL EDUCATION

- Ph.D., Texas A&M University, College Station , Geology (2019)
- M.S., Texas A&M University, College Station , Petroleum Engineering (2013)
- B.S., China University of Petroleum, Beijing , Petroleum Engineering (2009)

Publications

PUBLICATIONS

- **A Deep-Learning P-Wave Arrival Picker for Laboratory Acoustic Emissions: Model Training and Its Performance** *ROCK MECHANICS AND ROCK ENGINEERING*
  Guo, T., Vanorio, T., Ding, J.
  2024

- **Integrating laboratory acoustic measurements, deep neural networks, and micro-CT imaging for characterizing rock brittle deformation** *FRONTIERS IN EARTH SCIENCE*
  Ding, J., Clark, A. C., Vanorio, T.
  2023; 11

- **Elastic anisotropy of shales: The roles of crack alignment and compliance ratio** *GEOPHYSICS*
  Ding, J., Clark, A. C., Vanorio, T., Jew, A. D., Bargar, J. R.
  2022; 87 (2): A13-A17

- **Acoustic velocity and permeability of acidized and propped fractures in shale** *GEOPHYSICS*
  Ding, J., Clark, A. C., Vanorio, T., Jew, A. D., Bargar, J. R.
  2022; 87 (1): MR13-MR24

- **Test of the Effective Stress Law for Semibrittle Deformation Using Isostatic and Triaxial Load Paths** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*
  Ding, J., Chester, F. M., Chester, J. S.
  2021; 126 (5)
- **Coupled Brittle and Viscous Micromechanisms Produce Semibrittle Flow, Grain-Boundary Sliding, and Anelasticity in Salt-Rock** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*
  Ding, J., Chester, F. M., Chester, J. S., Shen, X., Arson, C.
  2021; 126 (2)
- **Fabric evolution and crack propagation in salt during consolidation and cyclic compression tests** *ACTA GEOTECHNICA*
  Shen, X., Ding, J., Lordkipanidze, I., Arson, C., Chester, J. S., Chester, F. M.
  2021
- **Micromechanical modeling for rate-dependent behavior of salt rock under cyclic loading** *INTERNATIONAL JOURNAL FOR NUMERICAL AND ANALYTICAL METHODS IN GEOMECHANICS*
  Shen, X., Ding, J., Arson, C., Chester, J. S., Chester, F. M.
  2020
- **Mechanisms of Anisotropy in Salt Rock Upon Microcrack Propagation** *ROCK MECHANICS AND ROCK ENGINEERING*
  Shen, X., Arson, C., Ding, J., Chester, F. M., Chester, J. S.
  2020; 53 (7): 3185-3205