Daopu Wang

CV

Tel: +8617340544463
Email: daopuwang77@gmail.com
Homepage: vianwan.github.io/

Southern University of Science and Technology
Department of Earth and Space Sciences
Master Candidate in Physics

Educations

MS in Physics, Southern University of Science and Technology, Shenzhen, China. 2022.09 - 2025.06
GPA: 3.56/4.0
Courses: Advanced Geo-Electromagnetism, Computational Geophysics, Geophysical Inverse Problem
Thesis: Electric Resistivity Tomography Guided by Seismic Information and Its Application in Karst Cavities
Advisor: Dikun Yang.

BS in Geophysics, Yangtze University, Wuhan, China. 2018.09 - 2022.06
GPA: 3.73/5.0, Rank: 4/43
Courses: Principles of Seismic Exploration, General Geological Practice
Thesis: Characteristics of MT Signals Based on Remote Reference Station Statistical Analysis Research
Advisor: Xinbing Xie.

Publication

2024 **Underwater ERT method to image Karst cave distribution below the river water**.
Daopu Wang, Dikun Yang, et al., (2024), SEG Global Meeting Abstracts: 139-142. DOI: 10.1190/iceg2023-0321.1

Research Experience

Comprehensive Geophysical Prospecting of Geo-Hazards in the SUSTech Campus. 2024.10 - Present
- *Leading teams through the entire process of Electric Resistivity Tomography (ERT) survey design, data acquisition, data processing, and data interpretation.*
- *Using the open Python package SimPEG process potential difference data to obtain conductivity cross-section.*
- *Participating in acquisition and processing seismic data from both active and passive sources using Smart Seismic Sensor IGU-16HR.*
- *Extracted dispersion curves from active sources using the Multi-channel Analysis of Surface Waves (MASW) method, including FK and LRT techniques, and from ambient noise using SPAC and F-K methods, then inverted these dispersion curves to obtain Vs structures.*

Development of a Cloud-Based Simulation Platform for Direct Current Resistivity Imaging. 2024.10 - Present
- *Simulation of electric potential distribution using the finite volume method.*
- *Designed a user-friendly interface with customizable parameters for professional use.*
- *Cloud-based deployment and out-of-the-box functions, secure and stable.*
- *In a short period of time, get the high-resolution underground electrical structure as well as iteration parameters, model parameters and so on.*

Experiment of Nearshore Magnetotelluric (MT) Survey Using Inter-station Impedance. 2024.10 - 2024.11
- *Design schemes for shallow water MT surveys including underwater cable design, site evaluation.*
- *Acquisite MT field data both onshore and offshore using Phoenix instrument MTU-5A.*
- *Processing obtained inter-station time series and estimation of impedance by SSMT2000 and MTEditor.*

Underwater ERT Method to Image Karst Cave Distribution Below River Water. 2023.02 - 2023.10
Project from CCCC-FHDI Engineering Co., Ltd.
- *As Karst caves were covered by river water with rapid flow, a specialized underwater cable and well-designed ERT measurements were adopted to obtain river bottom potential difference data.*
- *2D inversion models incorporating riverbed terrain were obtained, successfully corresponding with existing borehole data.*

Imaging Karst Cavities Distribution Using ERT and ANT Method. 2022.11 - 2023.02
Project from Shenzhen Municipal Engineering Corp.
- *Acquired and processed ERT and seismic data on-site, successfully identifying the spatial position of the cave using conductivity and velocity models.*
- *By incorporating velocity structures as a new soft constraint, the resolution of the conductivity model was successfully improved.*

Cross-hole Electrical Resistivity Tomography (CHERT) for Monitoring DNAPL Contamination. 2022.07 - 2022.11
- *Utilized a monitoring well as an electrode to transmit current.*
- *Acquired ERT data from both surface and well-based electrodes for comprehensive subsurface analysis.*
- *Mapped the direction and depth of pollutant dispersion by analyzing resistivity anomalies.*

Awards and Fellowships

2023.10 The **Third Prize** in the eighth National College Students "Innovation Cup" Geophysical Knowledge Competition (CNY 1000). News Report

2021.09 The **Second Prize** in the seventh National College Students "Innovation Cup" Geophysical Knowledge Competition.

2019.12 **The National Encouragement Scholarship** (CNY 5000).

Presentations

2024.08 **Interpreting Cross-river Underwater Electric Resistivity Data for Dam Construction: Lessons Learned from 2D and 3D Inversions**.
Daopu Wang, Dikun Yang, *The International Meeting for Applied Geoscience and Energy (IMAGE2024)* , Aug. 28, 2024, Houston, Texas, USA.

2024.06 **Development and Application of Joint Nodal Acquisition Stations for Seismic and ERT Data**.
Daopu Wang, Dikun Yang, *The 11th International Conference on Environmental and Engineering Geophysics (11th ICEEG)* , Jun. 30, 2024, Shenzhen, China.

2023.10 **Underwater ERT Method to Image Karst Cave Distribution Below the River Water**.
Daopu Wang, Haibing Chai, Dikun Yang, *The Seventh International Conference on Engineering Geophysics (7th ICEG)* , Oct. 18, 2023, AI Ain, UAE.

2023.08 **Electric Resistivity Tomography Inversion Guided by Passive Microtremor Data for Detection of Karst Cavities**.
Daopu Wang, Dikun Yang, Zhentao Yang, *The International Meeting for Applied Geoscience and Energy (IMAGE2023)* , AUG. 27, 2023, Houston, Texas, USA.

Languages & Skills

Programming: Python, MATLAB, Jekyll, Linux, etc.

Software: SimPEG, SSMT2000, SAC, Adobe (Photoshop, Lightroom), Cartopy, Disba, etc.

Instruments: SmartSolo Geophone, Phoenix System MTU-5A, Multi-channel Electrical System GD-20, RTK, etc.

Languages: Mandarin (Native), English (IELTS 6.5).

Geophysical Skills: ERT (Practical experience of the whole-process ERT survey); MT (Experience in data acquisition and data processing); Surface Wave (Field practice and seismic data processing).

Interests

Sports: Swimming, hiking.

Photography: Photography Portfolio featuring landscapes and emotional moments.

Volunteering: Conference volunteering (more than 100 hours); maintain individual dedication and zest for life firsthand.