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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 signal 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](https://doi.org/10.1190/iceg2023-0321.1)

Research Experience

Comprehensive geophysical prospecting of geo-hazards in the SUSTech campus. 2024.10 - on

- 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 - on

- 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.
- Acquire MT field data both onshore and offshore using Phoneix 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 the 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.

- Image 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). [Newsreport](#)
- 2021.09

The **'second prize'** in the seveth 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.

Language & Skills

- Programming:**

Python, Matlab, Jekyll, Linux, etc.
- Softwares:**

SimPEG, SSMT2000, SAC, Adobe(Ps, LR), Cartopy, disba, etc.
- Instrument:**

SmartSolo Geophone, Phoneix system MTU-5A, Muti-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(Filed practice and seismic data processing).

Interests

- Sports:**

Swimming, Hiking.
- Photography:**

[Photography Portfolio](#) contains landscapes and emotions.
- Volunteering:**

Conference Volunteering(100+ hours), feel individual energy and zest for life first hand.