

KUAN-FU FENG

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GitHub [click] | LinkedIn Profile [click] | Google Scholar [click]

Research Seismologist with 10+ years of specialized experience in time-frequency analysis, signal processing, and time-lapse monitoring. Proficient in scientific computing, programming, cloud computing, and open-source tools. Experience translating observational geophysics into operational monitoring frameworks relevant to environmental systems.

TECHNICAL EXPERTISE & RESEARCH FOCUS

Subsurface Systems & Monitoring

Time-lapse seismic monitoring; Hydrogeophysical data integration; Environmental forcing response; Permeability evolution assessment

Modeling & Quantitative Methods

Inverse modeling; Statistical analysis; Time-frequency analysis; Large-scale time series analysis

Computational & Scalable Infrastructure

Python; Fortran; C/C++; Bash Scripting; Linux HPC environment; Parallel scripting; Workflow automation; AWS (S3, EC2, Jupyter); Git/GitHub; Visual Studio Code

PROFESSIONAL EXPERIENCE

Postdoctoral Research Associate

University of Utah & University of Washington, USA

Jun 2022 - present

- Led development of scalable time-lapse seismic monitoring frameworks to quantify fluid-driven subsurface property changes, enabling detection and quantification of hydrologic forcing and subsurface property evolution at regional scales.
- Processed and analyzed 10+ TB of ambient noise data using HPC/cloud workflows for scalable subsurface monitoring.
- Developed data-driven and inversion-based models to quantify hydrologically induced seismic velocity variations.
- Integrated multi-scale geophysical and environmental datasets to assess groundwater–surface water interactions.
- Contributed to open-source geophysical software and delivered training workshops on cloud-enabled scientific computing.

Graduate Research Assistant

National Taiwan University, Taiwan

Sep 2017 - Jan 2022

- Designed and implemented ambient noise–based seismic monitoring systems to track tectonic and hydrological processes.
- Performed multi-year time-frequency analyses to resolve crustal velocity changes and fluid migration signals.
- Participated in field deployment of portable and broadband seismic arrays and analyzed earthquake source processes and structural models.

FIELD WORK EXPERIENCE

Nodal Seismic Array Deployment, Los Angeles Basin, USA.

2022

Broadband Seismic Array Deployment, Chu-Lin and Lan-Tai Landslide Areas, Taiwan.

2018 and 2019

SERVICE & PROFESSIONAL ACTIVITIES

Peer-reviewer for *Geophysical Research Letters*, *Nature Communications*, *Tectonophysics*, *Journal of Geophysical Research*, & others.

Workshop instructor for Data Mining and Cloud 101 at the 2024 Seismological Society of America Meeting & SCOPED Workshop

Lecture instructor for Undergraduate Summer Internship Program at the Institute of Earth Sciences, Academia Sinica, Taiwan

EDUCATION

PhD Geosciences, National Taiwan University, Taiwan

Sep 2017 - Jan 2022

Master Geosciences, National Taiwan University, Taiwan

Sep 2014 - Jun 2016

Bachelor Earth and Environmental Sciences, National Chung Cheng University, Taiwan

Sep 2010 - Jan 2014

SELECTED PEER-REVIEWED PUBLICATIONS

- [1] Feng, K.-F., et al. (2026) **A Decadal Survey of the Near-Surface Seismic Velocity Response to Hydrological Variations in Utah, United States.** *Journal of Geophysical Research: Solid Earth*
- [2] Ni, Y., et al. (2025) **A Review of Cloud Computing and Storage in Seismology.** *Geophysical Journal International*
- [3] Denolle, M., et al. (2025) **Training the Next Generation of Seismologists: Delivering Research-Grade Software Education for Cloud and HPC Computing through Diverse Training Modalities.** *Seismological Research Letters*