

Yifan Yin

PHD · STATISTICAL SEISMOLOGY · EARTHQUAKE CYCLE MODELING

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Summary

- Experienced seismologist in multiple fields, including waveform and data analysis, body- and surface-wave tomography, statistical seismology, and earthquake cycle modeling.
- PhD thesis focus on connecting seismic sequences with physical observation and numerical models of earthquake ruptures.
- Demonstrated capabilities in collaborating and communicating with observational seismologist, simulation scientists and statisticians in and across institutes.

Work Experience

ETH Zurich, Swiss Seismological Service

Zurich, Switzerland

DOCTORAL CANDIDATE

March 2016 – May 2022

- Enhancing earthquake catalog in the Canterbury Plain prior to 2010 Darfield earthquake using template matching technique. This project is a collaboration between Swiss Seismological Service and GNS Science, New Zealand.
- Evaluating the effectiveness of earthquake simulators on seismic hazard assessments using Virtual Quake.
- Modeling complex earthquake sequences in 3-D fault system under rate-and-state friction using a quasi-dynamic boundary element model.
- Teaching Assistant of first-year course "data analysis and visualization with MATLAB". Duties include exercise assistance and assignment corrections.

Institute of Earth Sciences, Academia Sinica

Taipei, Taiwan

RESEARCH ASSISTANT

September 2010 – Jan 2016

- Research assistant with Dr. Frédéric Deschamps working on anisotropy tomography of the North Island, New Zealand and Eastern United States. Duties include dispersion curve fitting, inversion and manuscript writing.
- Data analyst at Broadband Array in Taiwan for Seismology (BATS). Duties include routine centroid moment tensor inversion for local earthquakes, station quality control, and metadata maintainance for permanent and temporary arrays.
- Supporting field experiments and institute outreach activities.

Disaster Prevention Technology Group, Sinotech Engineering Consultants Inc.

Taipei, Taiwan

RESEARCHER

August 2009 – August 2010

- Report on landslide potentials in Nantou County
- Report on Shihmen Reservoir health and impact of landslides within the catchment
- Supporting various projects after the Typhoon Morakot, including satellite image processing and production of evacuation maps.

Publications

The role of three-dimensional fault interactions in creating complex seismic sequences and power-law magnitude distributions

Earth and Space Science
Open Archive (Preprint)

Yifan Yin, Percy Galvez, Elías R. Heimisson, and Stefan Wiemer

2022

Seismicity Rate Change as a Tool to Investigate Delayed and Remote Triggering of the 2010–2011 Canterbury Earthquake Sequence, New Zealand

Bulletin of the
Seismological Society of
America

Yifan Yin, Stefan Wiemer, Edi Kissling, Federica Lanza, Antonio P. Rinaldi, Matthew Gerstenberger, and Bill Fry

2021

Skills

Programming Python, FORTRAN, R
Packages Numpy, Scipy, ObsPy, GMT, SAC
Languages English (Professional), German (Basic), Chinese (Native)

Education

ETH Zurich

Zurich, Switzerland

DR.SC. IN EARTH SCIENCES

May 2022

Seismicity and fault interaction through observation and simulation

National Taiwan University

M.SC. IN GEOSCIENCES

Multi-Scale Finite-Frequency Travel-time Tomography Applied to Imaging 3-D Velocity Structure of the Upper Mantle beneath the Southwest United States [↗](#)

Taipei, Taiwan

January 2009

National Central University

B.S. IN EARTH SCIENCES

Taoyuan, Taiwan

June 2006

Selected Presentations

European Geophysical Union General Assembly 2020 (online)

Online

Seismic rate change as a tool to investigate remote triggering of the 2010-2011 Canterbury earthquake sequence, New Zealand

April 2020

European Geological Commission General Assembly

Malta

Is Canterbury sequence triggered by distant subduction zone earthquakes?

September 2018

American Geophysical Union Fall Meeting

San Francisco

Azimuthal anisotropy and 3-D shear-wave velocity structures of North Island, New Zealand

December 2013

IRIS Metadata Workshop: Managing Waveform Data and Related Metadata for Seismic Networks

Bangkok

Broadband Array in Taiwan for Seismology, IES, Academia Sinica

January 2012

Extracurricular Activity

Vice president of department student association

Department of Earth Sciences,
National Central University

- Main organizer of Earth Science Week, a week of activities introducing and celebrating the department.
- Supporting association activities around the year.

Organizers and staff of earth science summer camp

National Central University

- The earth science summer camp is a week-long camp designed for high-school students to showcase the research and campus of the NCU college of earth sciences. The camps are organized by the college students within the departments.
 - Group leader of the science program
 - Group member of design, media and props
 - Group member of activities