PhD Opportunities at UT Austin

in *earthquake science* with *optimization* and *machine learning*

The **earthquake seismology group** at UT Austin invites applicants for PhD positions. Our group is at the forefront of advancing optimization and machine learning techniques to address key challenges in earthquake science, seismic hazards, and renewable energy solutions.

Research directions:

Unraveling earthquake mystery: Analyze seismic and geodetic data to uncover the fundamental processes driving earthquake behaviors—how they start, evolve, terminate, and how they interact with the Earth's complex faults, stresses, and dynamics.

Algorithms for complex challenges: Develop cutting-edge inversion, optimization, and machine learning techniques on big data for complex geophysical problems, from deciphering earthquakes and Earth's structure to predicting hazards like ground motions and tsunamis.

Sustainable energy solutions: Apply seismological lenses to monitor the evolving dynamics of geothermal and carbon sequestration, promote safer and more efficient renewable energy practices while minimizing environmental risks.

More about advisor, **Zhe Jia**: Homepage (jiazhe868.github.io)

Application

We encourage applicants with experience in programming language(s) like C, Fortran, Python, or MATLAB. Familiarity with technique(s) such as inversion, optimization, high-performance computing, parallel programming, or machine learning is a bonus, but not a requirement— plenty of opportunities for learning await!

Deadline for fellowship consideration is Dec 1, 2024; Deadline for general RA/TA opportunities is Jan1, 2025. Visit the JSG application page for more details. Co-advising opportunities are also available, and you can contact Zhe Jia (zjia@ig.utexas.edu) for more detailed info.

Postdoc applicants: stay tuned on the upcoming UTIG Distinguished Postdoctoral Fellowships, and contact Zhe Jia for co-advising opportunities.

Why us?

Interdisciplinary Research: We offer uniquely integrative opportunities for you to collaborate with world-class faculty experts in geophysics, environmental science, machine learning, and sustainable energy solutions.

Support for your future: We support you to develop impactful research and explore career prospects through our close connections with top research institutions and industry companies.