Linxuan Li

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Education

- **Wuhan University, School of Geodesy and Geomatics** — Wuhan, China
  Bachelor of Geophysics; GPA: 4.0/4.0 (via 133 credits) — *Sep 2019 - Jun 2023 (expected)*
  Rank first in both the academic and comprehensive assessments.

Research Interests — Everything associated with Tectonics!

- **Surface/Subsurface Geodynamic Processes**: Cyclic Loading, Deformation, and Seismicity; Induced Earthquakes
- **Rupture Process and Earthquake Physics**: Coseismic and Postseismic Deformations; Earthquake Triggering; Slow Slip
- **Seismic Cycle**: Earthquake Recurrence (Supercycles); Evolution of Crustal Stress and Strain

Research Experience

- **Investigate seismicity patterns in the Three Gorges Reservoir area** — Sep 2020 - May 2022
  Advisor: Gang Luo (Wuhan University)
  - Use various statistical methods to characterize the spatial and temporal patterns of regional seismicty.
  - Use physics-based calculations to investigate the relationship between earthquakes and hydrosphere changes (reservoir water level and precipitation).

- **Use K–M slope to study seismic sequences** — Feb 2022 - Present
  Advisors: Gang Luo (Wuhan University), Mian Liu (University of Missouri)
  - Verify that the $K-M$ slope (KMS) derived from topological analysis is universally proportional to the b-value derived from Gutenberg-Richter law.
  - Compare KMS estimation with traditional b-value estimation methods to explore the potential application of KMS.

- **Stress-based forecasting of reservoir-induced earthquakes** — Jun 2022 - Present
  Advisors: Gang Luo (Wuhan University), Mian Liu (University of Missouri)
  - Build general model to illustrate how water level fluctuation, including changes in the elastic load and pore pressure, can affect seismicity rate under different loading configurations, different background stress fields or fault types, different material properties, and different nucleation process assumptions.

- **Link seismic velocity with hydrosphere changes** — Jul 2022 - Present
  Advisors: Jiangtao Li (Wuhan University), Xiaodong Song (Peking University)
  - Build general model to illustrate how hydrosphere changes, including changes in the elastic load and pore pressure, can affect seismic velocity.
  - Apply the model to the Tibetan Plateau and Sichuan Basin to explain the observed phenomenon.

Publications

1. **Linxuan Li** and Gang Luo (2022). "What causes the spatiotemporal patterns of seismicity in the Three Gorges Reservoir area, central China?." ***Earth and Planetary Science Letters***. https://doi.org/10.1016/j.epsl.2022.117618.
2. **Linxuan Li**, Gang Luo, and Mian Liu (submitted). The K–M slope: a potential supplement for b-value.

Technical Skills

- **Languages**: Chinese, English (IELTS: 7.5)
- **Programming Languages**: MATLAB, C/C++, Python, FORTRAN
- **Technical Softwares**: ABAQUS, GMT, ArcGIS, SPSS
- **Document/Presentation**: Office platform, Adobe, Overleaf

Honors and Awards

- **Yugang-Songxiao Scholarship (for the top 1 of 323 students)** 2020 - 2021
  Sponsored by Wuhan University
- **National Scholarship (for the top 6 of 336 students)** 2019 - 2020
  Sponsored by Ministry of Education of the People's Republic of China
- **The First Prize Scholarship** 2019 - 2020 and 2020 - 2021
  Sponsored by Wuhan University
- **Award for Active Participation in Social Activities** 2020 - 2021
  Sponsored by Wuhan University
- **Finalist in Interdisciplinary Contest in Modeling** 2021
  Sponsored by COMAP (Consortium for Mathematics and Its Applications)
- **First prize in College Mathematics Contest (Hubei Division)** 2020
  Sponsored by Chinese Mathematical Society

Additional Activities

- **Oxford Online Course (Oxford University)** Jan 2021 - Feb 2021
  Oxford Academic English Skills for Research; Tutor: Garry Maguire; Garde: A (3 credits)
- **Int'I Undergraduate Research Program (KAIST)** Dec 2021 - Feb 2022
  Introduction to Quantum Information; Tutor: Bae Joonwoo
- **Admissions Ambassador (Wuhan University)** Oct 2020 - Present
- **In charge of the Study Department (in Student Union)** Sep 2020 - Jun 2021
- **Responsible for literature and art activities (in class)** Sep 2019 - Present