

## CURRICULUM VITAE

### Wenbo ZHANG

PhD Candidate

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### **Education:**

Ph.D., **Structural Geology**, 2021-Present. School of Earth and Space Sciences, Peking University, China, Advisor: Prof. Nan Zhang

B.Sc. **Geology**, 2017-2021. School of Earth and Space Sciences, Peking University, China.

- Thesis: “Effects of rheology and internal heating on lunar cumulate mantle convection”
- Advisor: Prof. Nan Zhang

### **Research Interests:**

1. Evolution of the Moon;
2. Planetary Geodynamics;
3. Melt Process Modeling

### **Research Experience:**

**Peking University, School of Earth and Space Sciences, Beijing, China**

**Graduate Researcher**, Advisor: Prof. Nan Zhang

1. Long-lasting lunar mare volcanism until 2.0 Ga. 2023-Present
  - Constructed lunar tidal dissipation calculation with different viscoelastic models.
  - Demonstrated sustained lunar mare volcanism driven by radiogenic and tidal heating.
  - Developed analytical skills of geochemical and remote-sensing data.
  - Submitted 1 peer-reviewed manuscript and delivered 1 oral presentation.
2. Controlling factors of the spatial distribution of lunar mare eruptions. 2021-2023
  - Conducted 3-D numerical modeling of lunar mantle convection to investigate effects of viscosity, and heat-producing rate on lunar mare eruptions.
  - Addressed the asymmetric/hemispheric feature of lunar mare eruptions.
  - Developed skills related to finite-element mantle convection simulation and high-performance computing workflow management.
  - Published 2 peer-reviewed publications and delivered 2 oral presentations.

### **Full Publication List:**

1. Zhang, W., & Zhang, N. (2025). Long-lived Lunar Mare Volcanism Powered by Radiogenic and Tidal Heating. *Journal of Geophysical Research: Planets*, 130(10), e2024JE008828. Doi: 10.1029/2024JE008828. IF=4.0
2. Zhang, W., Zhang, N., Liang, Y., & Tople, L. (2023). The Effect of Pressure-Dependent Viscosity on the Dynamics of the Post-Overtake Lunar Mantle. *Journal of Geophysical Research: Planets*, 128(10), e2023JE007933. Doi: 10.1029/2023JE007933. IF=4.0
3. Zhang, W., Zhang, N., & Li, H. (2022). Abundances of lunar heat-producing elements constrained by a 3-D numerical model of titanium-rich basaltic eruption. *Chin. J. Geophys.*, 65(1), 119-136. Doi: 10.6038/cjg2022P0753. IF=1.4

### **Conference Presentations and Talks:**

1. American Geophysical Union Fall Meeting: *Long-lived lunar mare volcanism powered by radiogenic and tidal heating*. 2023. 12. 12. San Francisco, USA
2. The 5<sup>th</sup> Youth Scientist Forum of Planetary Science: *Effect of pressure-dependent viscosity on dynamics of post-overtake lunar mantle*. 2023. 03. 27. Sanya, China
3. The 6<sup>th</sup> Conference on Earth System Science: *Effect of rheology and internal heating on lunar cumulate mantle convection*. 2021. 07. 09. Shanghai, China

### **Awards & Honors:**

1. Luo Yuehua Scholarship, Peking University, 2024
2. Merit Student, Peking University, 2024
3. Merit Student, Peking University, 2022
4. Model Student of Academic Records, Peking University, 2019

### **Skills:**

1. Numerical Modeling
  - Utilized the finite-element mantle convection code CitcomS (C)
  - Developed own two-phase flow model (Python, Matlab)
  - Utilized the high-performance computing (MPI)
2. Data Analysis
  - Utilized the Planetary Data System (PDS)
  - Utilized the machine learning tools (PCA, SVM, K-Means)
  - Utilized the Markov Chain Monte Carlo (PyMC)

### **Language:**

Chinese (native), English (conversational)