

## Academic Staff Resume

Name: Feng Zhang

Title: Assistant Professor

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### Academic Qualification:

2009-2014, Ph.D. in National Astronomical Observatories, Chinese Academy of Sciences, Astrophysics

2005-2009, Bachelor in Jilin University, Geographical Information System (GIS)

### Teaching Area

Planetary Science	Physical Geology
Volcanology	GIS and RS

### Research Area

Planetary science	Comparative Planetology
Geology	Volcanology

### Working Experience

2018.1- today, State Key Laboratory of Lunar and Planetary Sciences, Macau University of Science and Technology, Assistant Professor

2017.09- 2017.12, Department of Earth and Planetary, UCLA, USA, visiting scholar

2015.01- 2017.12, Space Science Institute, Macau University of Science and Technology, Post-Doc Researcher.

### Academic Publication

Journal Articles:

1. Huang, Q., Zhao, J., Wang, X., Wang, T., Zhang, F., Qiao, L., Chen, Y., Qiu, D., Yang, Y. and Xiao, L. (2020). A large long-lived central-vent volcano in the Gardner region: Implications for the volcanic history of the nearside of the Moon. *Earth and Planetary Science Letters*, 542, 116301.
2. Feng Zhang, James W. Head, Christian Wohler, Roberto Bugiolacchi, Lionel Wilson, Alexander T. Basilevsky, Arne Grumpe, and Yongliao, Zou, 2020. Ring Moat Dome Structures (RMDs) in the Lunar Maria: Statistical, Compositional, and Morphological Characterization and Assessment of Theories of Origin. *Journal of Geophysical Research: Planets*, 125, e2019JE005967. <https://doi.org/10.1029/2019JE005967>
3. Lionel Wilson, James Head, and Feng Zhang, 2019. A theoretical model for the formation of Ring Moat Dome Structures: Products of second boiling in lunar basaltic lava flows. *Journal of Volcanology and Geothermal Research*, 374, 1, 160-180.
4. Y.N. Dang, L. Xiao, Y. Xu, F. Zhang, J. Huang, J. Wang, J.N. Zhao, G. Komatsu, and Z. Yue, 2018. The Polygonal Surface Structures in the Dalangtan Playa, Qaidam Basin, NW China: Controlling Factors for their Formation and Implications for Analogous Martian Landforms. *Journal of Geophysical Research. Planets*, 123(7), 1910–1933.
5. F. Zhang, M.-H. Zhu, R. Bugiolacchi, Q. Huang, G.R. Osinski, L. Xiao, and Y.L. Zou, 2018. Diversity of basaltic lunar volcanism associated with buried impact structures: Implications for intrusive and extrusive events. *Icarus*, 307, 216–234.
6. Feng Zhang, James W. Head, Alexander T. Bazilevskiy, Roberto Bugiolacchi, Goro Komatsu, Lionel Wilson, Wenzhe Fa, and Meng-Hua Zhu, 2017. Newly Discovered Ring-Moat Dome Structures in the Lunar Maria: Possible Origins and Implications. *Geophysical Research Letters*, 44, 9216–9224.
7. F. Zhang, M.-H. Zhu, Y.L. Zou, 2016. Late stage Imbrium volcanism on the Moon: Evidence for two source regions and implications for the thermal history of Mare Imbrium. *Earth and Planetary Science Letters*, 445, 13–27.
8. F. Zhang, Y.L. Zou, Y.C. Zheng, X.H. Fu, Y.C. Zhu, 2014. Lunar mare basalts in the Aristarchus region: Implications for the stratigraphic sequence from Clementine UVVIS data. *Icarus*, 227, 132–151.
9. Feng Zhang, Yong-Liao Zou, Yong-Chun Zheng, Xiao-Hui Fu, Yong-Chao Zhu, 2014. Mapping and Compositional Analysis of Mare Basalts in the Aristarchus Region of the Moon Using Clementine Data. *Research in Astronomy and Astrophysics*, 14(1), 113–128.
10. Zhang Feng, Zou Yongliao, Zheng Yongchun, Fu Xiaohui, 2012. A new automated approach to detecting and extracting lunar craters and its application. *Earth Science Frontiers*, 19 (6): 118–127.
11. Y.C. Zheng, K.T. Tsang, K.L. Chan, Y.L. Zou, F. Zhang, Z.Y. Ouyang, 2012. First microwave map of the Moon with Chang'E-1 data: The role of local time in global imaging. *Icarus* 219, 194–210.

12. Ban, C., Zheng, Y., Zhu, Y., Zhang, F., Xu, L., and Zou, Y., 2014. Research on the inversion of elemental abundances from Chang'E-2 X-ray spectrometry data. *Chinese Journal of Geochemistry*, 33(3), 289–299.
13. Feng Zhang, Yongchao Zhu, 2014. How to Capture-and-return Near-Earth Asteroid-NASA Asteroid Redirect Plan. *Amateur Astronomer* 2, 42–47.
14. ZHENG Yongchun, ZHANG Feng, FU Xiaohui, ZOU Yongliao, OUYANG Ziyuan, 2011. Water on the Moon: Exploration History and New Evidence. *ACTA GEOLOGICA* 85(7), 1069–1078.
15. Ban Chao, Zheng Yongchun, Zhang Feng, Zhu Yongchao, Zou Yongliao, 2014. Element abundances in Oceanus Procellarum: Data analysis of Chang'E-2 X-ray spectrometry. *Earth Science Frontiers*, 21 (6), 062–073.
16. Xiaohui Fu, Feng Zhang, 2013. The forerunner of Lunar and Planetary Science-Eugene Merle Shoemaker. *Amateur Astronomer* 11, 82–83.

#### Books & Book Chapters:

#### Conference Papers:

1. Basilevsky, A. T., Zhang, F., Wöhler, C., Bugiolacchi, R., Head, J. W., and Wilson, L. LUNAR RING-MOAT DOME STRUCTURES AND THEIR RELATIONSHIPS WITH SMALL IMPACT CRATERS. 50th Lunar and Planetary Science Conference, The Woodlands, Texas, 2019.3.18-2019.3.22.
2. F. Zhang, C. Wohler, J.W. Head, R. Bugiolacchi, L. Wilson, A. Grumpe, Ring-Moat Dome Structures in the Lunar Maria: enigmatic features as potential candidate for future explorations, CNSA (LESEC) - ESA Lunar Science Workshop 2018, AMSTERDAM, THE NETHERLANDS, 2018.7.16-2018.7.18.
3. F. Zhang, C. Wohler, J.W. Head, R. Bugiolacchi, L. Wilson, A. Grumpe, Ring-Moat Dome Structures in the Lunar Maria: Morphologic Diversity and Comparison with Irregular Mare Patches, 15th Annual Meeting of the Asia Oceania Geosciences Society, Hawaii Convention Center, Honolulu, Hawaii, 2018.6.3-2018.6.8.
4. F. Zhang, C. Wohler, J.W. Head, R. Bugiolacchi, L. Wilson, A. Grumpe, Ring-Moat Dome Structures (RMDSs) in the Lunar Maria: Further Statistical and Morphological Characterization, 49th Lunar and Planetary Science Conference, The Woodlands, Texas, 2018.3.19-2018.3.23.
5. F.Zhang, M.H. Zhu, 2015. Remote sensing observations of late stage Imbrium volcanism on the Moon: the follow-up of the impact-induced volcanism? 12th AOGS, Singapore.
6. F. Zhang, Y.L. Zou, Y.C. Zheng, X.H. Fu, 2012. Mapping Homogeneous Mare Basalt Units in The Aristarchus Quadrangle Using Clementine Spectral Parameters. 43rd Lunar and Planetary Science Conference, Abstract 1133.
7. F. Zhang, Y.L. Zou, Y.C. Zheng, X.H. Fu, Y.C. Zhu, 2013. Automated Detection and Extraction of Lunar Impact Craters from Digital Topography Data. 44th Lunar and Planetary Science Conference, Abstract 1446.
8. F. Zhang, Y.L. Zou, Y.C. Zheng, X.H. Fu, Y.C. Zhu, 2014. Spectroscopic Investigations of Mare Basalts within Imbrium Basin Using M3 Data. 45th Lunar and Planetary Science Conference, Abstract 1586.

#### Research Projects

1. 2021.1-2023.12, the Science and Technology Development Fund, Macau SAR, Implications for the Compositional Distribution and Thermal Evolution of the Moon Indicated from Tectonic-volcanic Interactions, 0049/2020/A1, PI.
2. 2019.8-2022.12, National Natural Science Foundation of China, An Investigation of Lunar Deep Source Materials at Chang'E-4 Landing Site, 11941001, Member.
3. 2020.1-2022.12, National Natural Science Foundation of China, Lunar Ring-Moat Dome Structures (RMDSs): Characterization and Constraints on Origin, 11903090, PI.
4. 2018.5-2021.5, the Science and Technology Development Fund, Macau SAR, High Precision Topographic Mapping and Surface Mineral Retrieval of Mars Based on Integrated Processing of Multi-source Remote Sensing Data (131/2017/A3), Co-PI.
5. 2018.12-2020.12, the Science and Technology Development Fund, Macau SAR, Scientific Analysis of Chang'E-4 Lunar Exploration Data, 0042/2018/A2, Member.
6. 2015.1-2017.12, the Science and Technology Development Fund of Macau, Hydrocode Numerical Modeling of the Impact Cratering on the Moon and Its Applications (075/2014/A2). Member.
7. 2010-2014, High Technology Research and Development Program of China (863 program), Application and Research to the Scientific Data of Lunar Orbiter Project, “Comprehensive study on lunar digitally geological mapping and model for evolution of the Moon” (No. 2009AA122201). Member.
8. 2007-2008, Participation in “Innovative Experimentation Plan for University Students”, national-level program: “the study on Jilin Provincial Agricultural Environment Integrated Information System (2008A62036)”

Professional Certification and Awards

Professional Society Membership