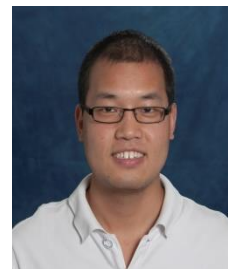


Academic Staff Resume

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Academic Qualification:

Ph.D. in Planetary Geology, University of Arizona, China University of Geosciences (Wuhan)

Master in Structural Geology, China University of Geosciences (Wuhan)

Bachelor in Computer Science, China University of Geosciences (Wuhan)

Bachelor in English, Huazhong University of Science and Technology

Teaching Area

Planetary Geology

Structural Geology

Research Area

Planetary Surface Processes

Impact crater chronology

Earth Impact Craters

Working Experience

2014-Present: China University of Geosciences (Wuhan), School of Earth Sciences, Associate Professor

2014-2015: University of Oslo, Centre for Earth Evolution and Dynamics, Postdoc

2015-Present: University of Oslo, Centre for Earth Evolution and Dynamics, Guest Researcher

Academic Publication

Journal Articles:

肖智勇*, 樊航宇, 曾佐勋, 戴光明. 影像云纹法及GIS在缝合线三维重构中的应用. 2009. 吉林大学学报 (地球科学版), 39 (3), 555–558.

樊航宇, 肖智勇, 曾佐勋. 湖北大冶铁山地区缝合线三维形态模拟及其成因分析. 现代地质. 2009. 23 (3), 448–455.

肖智勇*, 曾佐勋. 月球磁场研究新进展. 地球物理学进展. 25(3): 804–808, doi: 10.3969/j.issn.1004-2903.2010.03.010.

肖智勇*, 曾佐勋, 肖龙, 法文哲, 黄倩. 月球哥白尼纪撞击坑底部链状坑的成因. 中国科学: 物理学 力学 天文学. 2010, 40 (11), 1326–1342.

肖智勇*, 曾佐勋. 带电月尘活动对月球磁场的影响. 地球物理学进展. 2012, 27(2): 522–527, doi: 10.6038/j.issn.1004-2903.2012.02.015.

肖智勇*, Robert G. Strom, 曾佐勋. 2013. 撞击坑统计技术在行星表面定年的应用中的误区. *地球科学*, 38 (1), 145–160, doi: 10.3700/dqkx.2013.S1.000.

杨屿, 肖智勇*, 许晓明, 陈维, 曾佐勋. 多尺度分析在月球表面哥白尼纪构造形迹研究中的重要性. *中国科学: 物理学 力学 天文学*, 2015, 45(3): 039601.

黄倩, 肖龙, 平劲松, 肖智勇, 乔乐, 赵建楠. 月球Marius Hills盾形火山密度和岩石圈弹性厚度. *中国科学: 物理学 力学 天文学*. 2013, 43(11), 1395–1402.

Zhiyong Xiao*, Zuoxun Zeng, Long Xiao, Wenzhe Fa, and Qian Huang. 2010. Origin of pit chains in the floor of lunar Copernican craters. *Science China Physics, Mechanics & Astronomy*, 53(12): 2145–2159. DOI: 10.1007/s11433-010-4174-z.

David T. Blewett, Nancy L. Chabot, Brett W. Denevi, Carolyn M. Ernst, James W. Head, Noam R. Izenberg, Scott L. Murchie, Sean C. Solomon, Larry R. Nittler, Timothy J. McCoy, Zhiyong Xiao, David M. H. Baker, Caleb I. Fassett, Sarah E. Braden, Jürgen Oberst, Frank Scholten, Frank Preusker, Debra M. Hurwitz. 2011. Hollows on Mercury: MESSENGER Evidence for Geologically Recent Volatile-Related Activity. *Science*, 333: 1856–1859.

James W. Head, Clark R. Chapman, Robert G. Strom, Caleb I. Fassett, Brett W. Denevi, David T. Blewett, Carolyn M. Ernst, Thomas R. Watters, Sean C. Solomon, Scott L. Murchie, Louise M. Prockter, Nancy L. Chabot, Jeffrey J. Gillis-Davis, Jennifer L. Whitten, Timothy A. Goudge, David M. H. Baker, Debra M. Hurwitz, Lillian R. Ostrach, **Zhiyong Xiao**, William J. Merline, Laura Kerber, James L. Dickson, Jürgen Oberst, Paul K. Byrne, Christian Klimczak, Larry R. Nittler. 2011. Flood Volcanism in the Northern High Latitudes of Mercury Revealed by MESSENGER. *Science*, 333: 1853–1856.

David T. Blewett, Nancy L. Chabot, Brett W. Denevi, Carolyn M. Ernst, James W. Head, Noam R. Izenberg, Scott L. Murchie, Sean C. Solomon, Larry R. Nittler, Timothy J. McCoy, **Zhiyong Xiao**, David M. H. Baker, Caleb I. Fassett, Sarah E. Braden, Jürgen Oberst, Frank Scholten, Frank Preusker, Debra M. Hurwitz. 2011. Hollows on Mercury: MESSENGER Evidence for Geologically Recent Volatile-Related Activity. *Science*, 333: 1856–1859.

James W. Head, Clark R. Chapman, Robert G. Strom, Caleb I. Fassett, Brett W. Denevi, David T. Blewett, Carolyn M. Ernst, Thomas R. Watters, Sean C. Solomon, Scott L. Murchie, Louise M. Prockter, Nancy L. Chabot, Jeffrey J. Gillis-Davis, Jennifer L. Whitten, Timothy A. Goudge, David M. H. Baker, Debra M. Hurwitz, Lillian R. Ostrach, **Zhiyong Xiao**, William J. Merline, Laura Kerber, James L. Dickson, Jürgen Oberst, Paul K. Byrne, Christian Klimczak, Larry R. Nittler. 2011. Flood Volcanism in the Northern High Latitudes of Mercury Revealed by MESSENGER. *Science*, 333: 1853–1856.

Zhiyong Xiao*, and Robert G. Strom. Problems determining relative and absolute ages using the small crater population. *Icarus*, 2012, 220(1), 254–267, doi.org/10.1016/j.icarus.2012.05.012.

David T. Blewett, William M. Vaughan, **Zhiyong Xiao**, Nancy L. Chabot, Brett W. Denevi, Carolyn M. Ernst, Jörn Helbert, Mario D'Amore, Alessandro Maturilli, James W. Head, Sean C. Solomon. 2013. Mercury's hollows: Constraints on formation and composition from analysis of geological setting and spectral reflectance. *Journal of Geophysics Research*, 118, 1–20, doi: 10.1029/2012JE004174.

Debra M. Hurwitz, James W. Head, Paul K. Byrne, **Zhiyong Xiao**, Sean C. Solomon, Maria T. Zuber, David E. Smith, and Gregory A. Neumann. 2012. Investigating the origin of candidate lava channels on Mercury observed in MESSENGER data: Theory and observations. *Journal of Geophysics Research*, 118, 471–486, doi: 10.1029/2012JE004103.

Zhiyong Xiao*, Zuoxun Zeng Ning Ding, Jamie Molaro. 2013. Mass wasting on the Moon: How active is the lunar surface? *Earth and Planetary Science Letters*, 376, 1–11, http://dx.doi.org/10.1016/j.epsl.2013.06.015.

Zhiyong Xiao*, Robert G. Strom, David T. Blewett, Paul K. Byrne, Sean C. Solomon, Scott L. Murchie, Ann L. Sprague, Deborah L. Domingue, Jörn Helbert. 2013. Dark spots on Mercury: A distinctive low-reflectance material and its relation to hollows. *Journal of Geophysics Research*, 118, 1752–1765, doi: 10.1002/jgre.20115.

Zhiyong Xiao*, Goro Komatsu. 2013. Impact craters with ejecta flows and central pits on Mercury. *Planetary and Space Science* , 82, 62–78, <http://dx.doi.org/10.1016/j.pss.2013.03.015>.

Zhiyong Xiao*, Goro Komatsu. 2013. Reprint of: Impact craters with ejecta flows and central pits on Mercury. *Planetary and Space Science* , <http://dx.doi.org/10.1016/j.pss.2013.07.001>.

Zhiyong Xiao*, Robert G. Strom, Zuoxun Zeng. 2013. Mistakes in using crater size-frequency distributions to estimate planetary surface ages. *Earth Science* (in Chinese), 38 (1), 145–160, doi: 10.3700/dqkx.2013.S1.000.

Qian Huang, **Zhiyong Xiao**, Long Xiao. 2013. Ancient primary crust beneath the Aristarchus Plateau: Constraints from gravity and topography data. *Planetary and Space Science* , 89, 189–193, <http://dx.doi.org/10.1016/j.pss.2013.09.016>.

Qian Huang, Long Xiao, Jinsong Ping, **Zhiyong Xiao**, Le Qiao, Jiannan Zhao. Density and lithospheric thickness of lunar shield volcano: Marius Hills (in Chinese). *Science China Physics, Mechanics & Astronomy* , 2013, 43(11), 1395–1402.

Timothy A. Goudge, James W. Head, Laura Kerber, Noam R. Izenberg, David T. Blewett, Brett W. Denevi, Deborah L. Domingue, Jeffrey J. Gillis-Davis, Jörn Helbert, Gregory M. Holsclaw, William E. McClintock, Scott L. Murchie, Gregory A. Neumann, Mark S. Robinson, David E. Smith, Robert G. Strom, **Zhiyong Xiao**, Maria T. Zuber, and Sean C. Solomon. 2014. Global Inventory and Characterization of Pyroclastic Deposits on Mercury: New Insights into Pyroclastic Activity from MESSENGER Orbital Data. *Journal of Geophysics Research* , in press, doi: 10.1002/2013JE004480.

Zhiyong Xiao*, Zuoxun Zeng, Goro Komatsu. 2014. A global inventory of central pit craters on the Moon: Distribution, morphology, and geometry. *Icarus* , 227, 195–201.

Zhiyong Xiao*, Robert G. Strom, Clark R. Chapman, James W. Head, Christian Klimczak, Lillian R. Ostrach, Jörn Helbert, Piero D'Incecco. 2014. Comparisons of fresh complex impact craters on Mercury and the Moon: Implications for controlling factors in impact excavation processes. *Icarus* , 228, 260–275, doi: 10.1016/j.icarus.2013.10.002.

Zhiyong Xiao*, Zuoxun Zeng, Zhiyong Li, David Blair, Long Xiao. 2014. Cooling fractures in impact melt deposits on the Moon and Mercury: Indications of cooling solely by thermal radiation. *Journal of Geophysics Research* , 119, 1496–1515, doi:10.1002/2013JE004560.

Qian Huang, **Zhiyong Xiao**, Long Xiao. 2014. Sbsurface structures of large volcanic complexes on the nearside of the Moon: A view from GRAIL gravity. *Icarus* , 243, 48–57.

Robert G. Strom, Renu Malhotra, **Zhiyong Xiao**, Takashi Ito, Fumi Yoshida, Lillian R. Ostrach. 2015. The inner solar system cratering record and the origin of the impacting objects. *Research in Astronomy and Astrophysics* , 15, 407–434.

Maria Teresa Brunetti, **Zhiyong Xiao**, Goro Komatsu, Silvia Peruccacci, Fausto Guzzetti. 2015. Large rock slides in impact craters on the Moon and Mercury. *Icarus* , 260, 289 - 300, doi:10.1016/j.icarus.2015.07.014.

Maria E. Banks, **Zhiyong Xiao**, Thomas R. Watters, Robert G. Strom, Sarah E. Braden, Clark R. Chapman, Sean C. Solomon, Christian Klimczak, Paul K. Byrne. 2015. Duration of activity on lobate-scarp thrust faults on Mercury. *Journal of Geophysics Research* , 120(11), 1751-1762, doi:10.1002/2015JE004828.

Long Xiao, Peimin Zhu, Guangyou Fang, **Zhiyong Xiao**, Yongliao Zou, Jiannan Zhao, Na Zhao, Yuefeng Yuan, Le Qiao, Xiaoping Zhang, Hao Zhang, Jiang Wang, Jun Huang, Qian Huang, Qi He, Bin Zhou, Yicai Ji, Qunying Zhang, Shaoxiang Shen, Yuxi Li, Yunze Gao. 2015. A young multilayered terrane of the northern Mare Imbrium revealed by Chang'E-3 mission. *Science* , 347 (6227), 1226–1229.

Jiannan Zhao, Jun Huang, Le Qiao, **Zhiyong Xiao**, Qian Huang, Jiang Wang, Qi He, Long Xiao. 2015. Geologic characteristics of the Chang'E-3 exploration region. *Science China Physics, Mechanics and Astronomy* . 57 (3), 569–576.

Shangzhe Zhou, **Zhiyong Xiao***, Zuoxun Zeng, 2015. Impact Craters with Circular and Isolated Secondary Craters on the Continuous Secondaries Facies on the Moon. *Journal of Earth Science*, 26(5), 740–745. doi:10.1007/s12583-015-0579-y.

Yu Yang, **Zhiyong Xiao***, Xiaoming Xu, Wei Chen, Zuoxun ZENG. 2015. The significance of multiscale analysis in the study of Copernican-aged tectonic features on the Moon (in Chinese). *Science China Physics, Mechanics and Astronomy* . 45 (3), 39601-039601.

Zhiyong Xiao*, Stephanie C. Werner. 2015. Size–frequency distribution of equilibrated crater populations on the Moon, *Journal of Geophysics Research* , 120 (12), 2277–2292, doi: 10.1002/2015JE004860.

Zhiyong Xiao*, Nils C. Prieur, Stephanie C. Werner. 2016. The self-secondary crater population of the Hokusai crater on Mercury. *Geophysical Research Letters*, doi: 10.1002/2016GL069868.

Wenzhe Fa, Yuzhen Cai, **Zhiyong Xiao**, Wei Tian. 2016. Topographic roughness of the northern high latitudes of Mercury from MESSENGER Laser Altimeter data. *Geophysical Research Letters*, 43(7), 3078–3087, doi: 10.1002/2016GL069868.

Books & Book Chapters:

Zhiyong Xiao, Zuoxun Zeng, and Robert G. Strom. 2014. Comparison between Copernican-aged Geological Activity on

Conference Papers:

To be added

Research Projects

2011/01 – 2012/09: MErcury Surface, Space ENvironment, GEochemistry, and Ranging (MESSENGER). NASA Discovery Program under contracts NAS5-97271 (to the Johns Hopkins University Applied Physics Laboratory) and NASW-00002 (to the Carnegie Institution of Washington). Participate under the supervising of Professor Robert G. Strom

2013/09 – Present: Chang'E-3 Core Science Team Member. Co-I on the Surface Morphology group, and the Petrology and Geochemistry group

2015/01 – 2017/12: Effect of target volatiles on ejection angles: Indications from the morphology and distribution of secondary craters on Mercury. National Natural Science Foundation of China. Fund: RMB 250,000. Project Number: 41403053. Principle Investigator.

2015/01 – 2017/12: Possibly of impact structures within China mainland remote sensing of potential impact structures. Fundamental Research Funds for the Central Universities, China University of Geosciences (Wuhan). Project Number: CUGL150405. Fund: RMB 300,000. Principle Investigator

Professional Certification and Awards

2014/01: Outstanding Ph.D thesis of Hubei Province

Professional Society Membership

Reviewer for Geomorphology, Scientific Report, Icarus, Journal of Earth Sciences, China Science G, etc.