

## 教學人員簡介

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職稱：助理教授

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## 學歷

美國匹茲堡大學電子與計算機工程博士

南京大學微電子學碩士

南京大學物理學學士

## 教學領域

遙感技術導論

## 研究領域

嫦娥系列衛星微波與雷達數據處理與分析

柴達木盆地與火星典型地貌對比研究

計算機體系結構

2D/3D芯片片上網絡設計

## 工作經歷

2013.7 ~ 至今 助理教授

太空科學研究所 澳門科技大學

2012.4 ~ 2013.7 研究員

AMD 北京研發中心

2007.8 - 2012.3 研究助理

匹茲堡大學電子與計算機工程系

## 研究項目

1. Comparative study of basin evolution of paleo-basins in Terra Sirenum on Mars and the Qaidam Basin: Implications for astrobiology study, 2018.3 - 2021.3, 2,040,500 MOP

2. Analog study of typical geomorphology of Qaidam basin and Mars, 2015.4 - 2018.4, 2,950,000 MOP

3. Comparative Study of the Polygonal Surface Structures in the Qaidam Basin and Mars, 2017.1-2018.12, 90,000 RMB

## 專業資格認證及獎項

Outstanding Research Assistant Award, University of Pittsburgh, 2012

最佳論文提名 The 15th International Symposium on High-Performance Computer Architecture, 2009

## 學術機構及社會任職

IEEE/ACM成員

客座主編 Design & Test of Computers, Special issue on Nanophotonic Network 2013-2014

## 學術成果

期刊與會議文章：

- [1].Lai, J., Xu, Y.\*, Bugiolacchi, R. et al. “First look by the Yutu-2 rover at the deep subsurface structure at the lunar farside”, Nature Communications 11, 3426 (2020).  
<https://doi.org/10.1038/s41467-020-17262-w>
- [2].Ling Zhang, Jing Li, Zhaofa Zeng, Yi Xu, Cai Liu, Shengbo Chen, “Stratigraphy of the Von Kármán Crater based on Chang’E-4 Lunar Penetrating Radar Data,” Geophysical Research Letters, 08 July 2020.
- [3].Xu Meng, Yi Xu\*, Long Xiao, Zhiyong Xiao, “Permittivity Estimation of Subsurface Deposits in the Elysium–Utopia Region on Mars with MRO Shallow Radar Sounder Data,” The Astronomical Journal, 159 (4), pp.156, 2020.
- [4].Xu Meng, Yi Xu\*, Long Xiao, Yanan Dang, et al., “Ground-penetrating radar measurements of subsurface structures of lacustrine sediments in the Qaidam Basin (NW China): Possible implications for future in-situ radar experiments on Mars”, Icarus, Volume 338, 113576, 1 March
- [5].L Zhang, B Hu, Z Jia, Y Xu, “The Subsurface Structure on the CE-3 Landing Site: LPR CH-1 Data Processing by Shearlet Transform”, Pure and Applied Geophysics, pp.1-16, Jan. 2020.
- [6].Jialong Lai, Yi Xu\*, Xiaoping Zhang, Long Xiao, et al.,”Comparison of dielectric properties and structure of lunar regolith at Chang'e-3 and Chang'e-4 landing sites revealed by ground-penetrating radar”, Geophysical Research Letters, 46 (22), 12783-12793.
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- [9].X. Meng, S. Liu, Y. Xu, L. Fu, Application of Laplace Domain Waveform Inversion to Cross-Hole Radar Data, Remote Sensing, 11(16):1839, 2019.
- [10].Fan Yang, Yi Xu\*, Kwing Lam Chan, Xiaoping Zhang, Guoping Hu, Yong Li, “Study of Chang’E-2 Microwave Radiometer Data in the Lunar Polar Region”, Advances in Astronomy, 2019.
- [11].Y. Dang, L. Xiao, Y. Xu, F. Zhang, J. Huang, J. Wang, J. Zhao, G. Komatsu, Z. Yue, “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
- [12]. Yi Xu, Jun Yang, Rami Melhem, “A Process Variation Tolerant Method for Nanophotonic On-Chip Network”, Journal on Emerging Technologies in Computing Systems, June 2018 (Accepted)
- [13]. Yi Xu, Kaidi Su, METHOD OF SORTING OBJECTS IN AN IMAGE, Australian Patent No. 2018100159, 2018.

- [14]. Sheng Gou, Zongyu Yue, Kaichang Di, Yi Xu, “Quantitative comparison of morphometric and hydrological characteristics of valley networks between Evros Vallis on Mars and Kaidu River in Tarim Basin as terrestrial analog”, *Journal of Remote Sensing*, Vol. 22, No. 2, pp. 313-323, 2018.
- [15]. Jialong Lai, Yi Xu\*, Xiaoping Zhang, Zesheng Tang, “Lunar Regolith Stratigraphy Analysis Based On The Simulation of Lunar Penetrating Radar Signals”, *Advances in Space Research*, Vol. 60, Issue 9, pp. 2099-2107, 2017.
- [16]. Cheng Z., Xiao L., Wang H., Yang H., Li J., Huang T., Xu Y., Ma N. Bacterial and Archaeal Lipids Recovered from Subsurface Evaporites of Dalangtan Playa on the Tibetan Plateau and Their Astrobiological Implications, *Astrobiology*, 17(11):1112-1122, 2017.
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- [18]. Jialong Lai, Yi Xu\*, Xiaoping Zhang, Zesheng Tang, “Structural analysis of lunar subsurface with Chang'E-3 lunar penetrating radar,” *Planetary and Space Science*, Vol.120, pp.96-102, 2016.
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- [21]. Y. Xu, J. Yang, R. Melhem, “BandArb: mitigating the effects of thermal and process variations in silicon-photonics network,” *Proceedings of the 12th ACM International Conference on Computing Frontiers*, May 2015.
- [22]. Yi Xu, Bo Zhao, Youtao Zhang, Jun Yang, “Simple Virtual Channel Allocation for High-Throughput and High-Frequency On-Chip Routers,” *ACM Transactions on Parallel Computing*, Vol.2, Issue 1, 2015.
- [23]. Yi Xu, Sudeep Pasricha, “Silicon Nanophotonics for Future Multicore Architectures: Opportunities & Challenges,” *IEEE Design & Test of Computers*, Vol. 31, Issue 5, 2014.
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- [25]. Zhiguo Meng, Yi Xu, etc. “Inversion of lunar regolith thickness with CELMS data using artificial neural network method”, *Planetary and Space Science*, Vol. 101, p. 1-11, 2014 .
- [26]. Xing Hu, Yi Xu, etc. “ TSocket: Thermal Sustainable Power Budgeting”, the 50th Design Automation Conference (DAC), San Francisco, 2014.
- [27]. Xing Hu, Yi Xu, Yu Hu, Yuan Xie, “Swimming Lane: A Composite Approach to Mitigate Voltage Droop effects in 3D Power Delivery Network”, the 19th Asia and South Pacific Design Automation Conference (ASP-DAC), 2014. (acceptance rate:31%)
- [28]. Zhe Wang, Shuchang Shuan, Ting Cao, Junli Gu, Yi Xu, etc., “WADE: Writeback-Aware Dynamic Cache Management for NVM-based Main Memory System”, *ACM Transactions on Architecture and Code Optimization & HIPEAC*, 2014.

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- [30]. Yi Xu, Jun Yang, Rami Melhem, “A Process Variation Tolerant Design for Nanophotonic Networks”, the Proceedings of the 39th International Symposium on Computer Architecture (ISCA-39), Portland, Oregon, 2012.(acceptance rate: 47/262=17.9%)
- [31]. Yi Xu, Jun Yang, Rami Melhem, “Channel Borrowing: An Energy-Efficient Nanophotonic Crossbar Architecture with Light-Weight Arbitration”, the International Conference on Supercomputing (ICS), Venice, Italy, 2012. (acceptance rate:22%)
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