

Academic Staff Resume

Assistant Professor Xu, Yi

Space Science Institute

Office : Room A502

Tel : (853)8897 1993

E-mail : yixu@must.edu.mo



Academic Qualification:

Ph.D. in Electrical and Computer Engineering, University of Pittsburgh, USA

M.Sc. in Microelectronics, Nanjing University, Nanjing, China

B.Sc. in Physics, Nanjing University, China, 1998

Teaching Area

Introduction of remote sensing

Research Area

Microwave/Lunar radar sounder signal analysis for “Chang-E” series satellites, Computer Architecture, Interconnection architecture design for 2D/ 3D CMP, nanophotonic network, cache coherence protocol, thermal management technique

Working Experience

2013.7 ~ present Assistant Professor
Space Science Institute, Macau University of Science and Technology, Macau

2007.8 - 2012.3 Graduate Teaching/Research Assistant
Department of Electrical and Computer Engineering, University of Pittsburgh

Academic Publication (Since 2009)

1. **Yi Xu**, Sudeep Pasricha, “Silicon Nanophotonics for Future Multicore Architectures: Opportunities & Challenges,” IEEE Design & Test of Computers. (Accepted)
2. Zhiguo Meng, **Yi Xu**, etc. “Influence of Lunar Topography on Simulated Surface Temperature”, Advances in Space Research. (Accepted)
3. Zhiguo Meng, **Yi Xu**, etc. “Inversion of lunar regolith thickness with CELMS data using artificial neural network method”, Planetary and Space Science. (Accepted)
4. Zhiguo Meng, **Yi Xu**, etc. “Influence of (FeO + TiO₂) abundance on the thermal emission from the lunar regolith using Chang’E-2 microwave radiometer data”, 40th COSPAR Scientific Assembly, 2014.
5. Xing Hu, **Yi Xu**, etc. “TSocket: Thermal Sustainable Power Budgeting”, to appear in the 50th Design Automation Conference (DAC), San Francisco, 2014.
6. Xing Hu, **Yi Xu**, Yu Hu, Yuan Xie, “Swimming Lane: A Composite Approach to Mitigate Voltage Droop effects in 3D Power Delivery Network”, to appear in the 19th Asia and South Pacific Design Automation Conference (ASP-DAC), 2014. (acceptance rate:31%)

7. 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.
8. Jia Zhan, Matt Poremba, **Yi Xu**, Yuan Xie, "No Δ : Leveraging Delta Compression for End-to-End Memory Access in NoC Based Multicores", to appear in the 19th Asia and South Pacific Design Automation Conference (ASP-DAC), 2014. (Best Paper Candidate)
9. Dong Xiang, Yan Zhang, Shuchang Shan, **Yi Xu**, "A Fault-Tolerant Routing Algorithm Design for On-Chip Optical Networks", the 32nd International Symposium on Reliable Distributed Systems (SRDS), Portugal, 2013.
10. **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%)
11. **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%)
12. **Yi Xu**, Yu Du, Youtao Zhang, Jun Yang, "A Composite and Scalable Cache Coherence Protocol for Large Scale CMPs", 25th International Conference on Supercomputing (ICS-25), Tucson, Arizona, 2011. (acceptance rate: 35/161=21.7%)
13. **Yi Xu**, Bo Zhao, Youtao Zhang, Jun Yang, "Simple Virtual Channel Allocation for High Throughput and High Frequency On-Chip Routers", 16th International Symposium on High-Performance Computer Architecture (HPCA-16), India, 2010. (acceptance rate: 32/175 = 18.3%)
14. Xiuyi Zhou, Jun Yang, **Yi Xu**, Youtao Zhang, Xuandong Li, "Thermal Management for 3D Processors via Task Scheduling", IEEE Transactions on Parallel and Distributed Systems, Jan. 2010.
15. **Yi Xu**, Yu Du, Bo Zhao, Xiuyi Zhou, Youtao Zhang, Jun Yang, "A Low-Radix and Low-Diameter 3D Interconnection Network Design", 15th International Symposium on High-Performance Computer Architecture(HPCA-15), Raleigh, North Carolina, pp. 30-41, 2009. (acceptance rate: 35/184=19%, Nominated for the best paper reward)
16. Ping Zhou, Bo Zhao, **Yi Xu**, Yu Du, Youtao Zhang, Jun Yang, Li Zhao, "Frequent Value Compression in Packet-based NoC Architectures," The 14th Asia and South Pacific Design Automation Conference (ASP-DAC), pp. 13-18, Jan. 2009. (acceptance rate: 116/355=33%)
17. Shengguang Yang, Li Li, **Yi Xu**, Yuang Zhang, Xiaoxiang Lou, Minglun Gao, "NoC adaptive arbitration policy based on congestion prediction", Application research of computers, 2009, No. 2.
18. Xiuyi Zhou, **Yi Xu**, Yu Du, Youtao Zhang, Jun Yang, "Thermal Management for 3D Processors via Task Scheduling", International Conference on Parallel Processing (ICPP-37), Portland, Oregon, pp. 115-122, 2008. (acceptance rate: 81/263 = 30%)
19. **Yi Xu**, Li Li, Du Gao-ming, Zhang Yu-ang, Zhang Bing, Gao Ming-lun, "An Adaptive Dynamic Arbiter for Multi-Processor SoC", Journal of Computer Research and Development, 2008, No.6.
20. **Yi Xu**, Li Li, Gao Ming-lun, Huang Zhuang-xiong, Yang Sheng-guang, "Static Power Mechanism and Low-Power Design Techniques in Nanometer CMOS Circuits", Microelectronics and calculator, 2007, No.9.
21. Li Li, **Yi Xu**, Sheng-guang Yang, Yu-ang Zhang, Shuzhuan He, "A SystemC-based hardware platform design of Network-on-a-Chip", 7th International Conference on ASIC (ASICON '07), Guilin, China, 2007.

22. **Yi Xu**, Li Li, Ming-lun Gao, Bing Zhang, Zhao-yu Jiang, Gao-ming Du, Wei Zhang, “An Adaptive Dynamic Arbiter for Multi-Processor SoC”, 8th International Conference on Solid-State and Integrated-Circuit Technology, 2006.23. Yi Xu, Du Gaoming, Li Li, Jiang Zhaoyu, Zhang Bing, Gao Minglun, “Study of Arbitration Arithmetic in Bus-Based Muti-Processor System-on-a-Chip”, 4th National Information Acquirement and Processing Meeting, Instrument gauge college journal, 2006, No.7 supplement.

23. **Yi Xu**, Du Gaoming, Li Li, Jiang Zhaoyu, Zhang Bing, Gao Minglun, “Study of Arbitration Arithmetic in Bus-Based Muti-Processor System-on-a-Chip”, 4th National Information Acquirement and Processing Meeting, Instrument gauge college journal, 2006, No.7 supplement.

24. Wei Zhang, Gao-Ming Du, **Yi Xu**, Ming-Lun Gao, Luo-Feng Geng, Bing Zhang, Zhao-Yu Jiang, Ning Hou, Yi-Hua Tang, “Design of a Hierarchy-Bus Based MPSoC on FPGA”, 8th International Conference on Solid-State and Integrated-Circuit Technology, 2006.

Professional Certification and Awards

Outstanding Research Assistant Award, University of Pittsburgh, 2012

Best Paper Nominee, The 15th International Symposium on High-Performance Computer Architecture, 2009

Professional Society Membership

TECHNICAL PROGRAM COMMITTEE MEMBER

Guest Editor of Design & Test of Computers, Special issue on Nanophotonic Network, 2013-2014

The 26th International Conference for High Performance Computing Networking, Storage and Analysis (SC), 2014

The 18th Asia and South Pacific Design Automation Conference (ASP-DAC), 2012