

**The 2nd ACM SIGOPS Asia-Pacific Workshop on Systems (APSys 2011)**

Shanghai, China (July 11-12th, 2011)

<http://apsys11.ucsd.edu/>**July 10th (Sunday)**

6:00pm - 9:00pm Reception @ Sasha's Bar. Enjoy unlimited beers.

**July 11th (Monday)**

7:30am - 8:15am Registration, coffee and cookies

8:15am - 8:30am Opening Remarks (Haibo Chen, Zheng Zhang, Sue Moon and Yuanyuan Zhou)

8:30 am - 9:30am Keynote - Kai Li (Princeton University) Host: Yuanyuan Zhou



Kai Li is a Paul M. Wythes '55, P'86 and Marcia R. Wythes P'86 Professor at Princeton University, where he worked as a faculty member since 1986. Before joining Princeton University, he received his Ph.D. degree from Yale University, M.S. degree from University of Science and Technology of China, Chinese Academy of Sciences, and B.S. degree from Jilin University. His research expertise is in building parallel and distributed systems, deduplication storage systems, and data analysis and search for large feature-rich datasets. He is an ACM fellow and an IEEE fellow. In 2001, he co-founded Data Domain, Inc., serving in roles as the initial CEO, CTO and Chief Scientist.

9:30am - 9:50am Tea break

9:50 am - 11:30am Session I - Kernel (Chair: Chandu Thekkath)

Protected Hard Real-time: The Next Frontier

Bernard Blackham, Yao Shi, and Gernot Heiser (NICTA and University of New South Wales) (PDF download)

Our Troubles with Linux: and Why You Should Care

Ashi S. Harji, Peter A. Buhr, and Tim Brecht (University of Waterloo)

CertiKOS: A Certified Kernel for Secure Cloud Computing

Liang Gu, Alexander Vaynberg, Bryan Ford, Zhong Shao, and David Costanzo (Yale University)

An Efficient Software Shared Virtual Memory for the Single-chip Cloud Computer

Junghyun Kim, Sangmin Seo, and Jaejin Lee (Seoul National University)

Linux kernel vulnerabilities: State-of-the-art defenses and open problems

Haogang Chen, Yandong Mao, and Xi Wang (MIT CSAIL), Dong Zhou (Tsinghua University), and Nickolai Zeldovich and M. Frans Kaashoek (MIT CSAIL)

11:45am - 1:00pm Lunch and poster session (Chair: KyoungSoo Park)

1:00pm - 2:40pm Session 2 - Reliability and security (Chair: Gernot Heiser)

Security Breaches as PMU Deviation: Detecting and Identifying Security Attacks Using Performance Counters  
Liwei Yuan, Weichao Xing, Haibo Chen, and Binyu Zang (Parallel Processing Institute, Fudan University)

A Virtual Memory Foundation for Deterministic Message Passing  
Yu Zhang (University of Science and Technology of China) and Bryan Ford (Yale University)

Static Analysis of Device Drivers: We Can Do Better!  
Sidney Amani and Leonid Ryzhyk (NICTA and UNSW), Alastair Donaldson (University of Oxford), and Gernot Heiser, Alexander Legg, and Yanjin Zhu (NICTA and UNSW)

Retroactive Auditing  
Xi Wang, Nikolai Zeldovich, and M. Frans Kaashoek (MIT CSAIL)

AutoLog: Facing Log Redundancy and Insufficiency  
Cheng Zhang (Shanghai Jiao Tong University), Zhenyu Guo and Ming Wu (Microsoft Research Asia), Longwen Lu, Yu Fan, and Jianjun Zhao (Shanghai Jiao Tong University), and Zheng Zhang (Microsoft Research Asia)

2:40pm - 3:00pm Tea break

3:00pm - 4:20pm Session 3 - Virtualization (Chair: Geoff Voelker)

Hardware-Supported Virtualization on ARM  
Prashant Varanasi and Gernot Heiser (NICTA, UNSW, Open Kernel Lab)

Traveling Forward in Time to Newer Operating Systems using ShadowReboot  
Hiroshi Yamada (Keio University, JST CREST) and Kenji Kono (Keio University, JST CREST)

Vis: Virtualization Enhanced Live Acquisition for Native System  
Miao Yu, Qian Lin, Bingyu Li, Zhengwei Qi, and Haibing Guan (Shanghai Jiao Tong University)

Toward Under-Millisecond I/O Latency in Xen-ARM  
Seehwan Yoo, Kuen-hwan Kwak, Jae-hyun Jo, and Chuck Yoo (Korea University)

4:20pm - 4:40pm Tea break

4:40pm - 5:30pm Panel session: Establishing an Asia-Pacific systems conference to promote excellence in computer systems research

Moderator: Chandu Thekkath (MSR Silicon Valley)

Panelists: Peter Druschel (MPI-SWS)  
Gernot Heiser (University of New South Wales)  
Jaejin Lee (Seoul National University)  
Doug Terry (MSR Silicon Valley)  
Geoff Voelker (UC San Diego)  
Honesty Young (Intel APAC R&D)  
Zheng Zhang (MSR Asia)

6:00pm Dinner in Fragrant Camphor Garden

## July 12th (Tuesday)

8:00am - 8:30am Registration, coffee and cookies

8:30am - 9:30am Keynote - Peter Druschel (MPI-SWS) Host: Zheng Zhang



He is the founding director of the Max Planck Institute for Software Systems. He also leads the distributed systems research group. Prior to joining the MPI-SWS in August 2005, Peter was a Professor of Computer Science at Rice University in Houston, TX. He also spent time with the SRC group at Laboratoire d'Informatique de Paris 6 (LIP6) (May-June 2000, June 2002), the Cambridge Distributed Systems group at Microsoft Research Cambridge, UK (August- December 2000), and the PDOS group at the MIT Laboratory for Computer Science (January-June 2001). He is the recipient of an NSF CAREER Award (1995), an Alfred P. Sloan Fellowship (2000), and the 2008 Mark Weiser Award. He is on the editorial boards of the Communications of the ACM (CACM) and the ACM Transactions on Computer Systems (TOCS) and has served as program chair for SOSP, OSDI and NSDI. Together with Antony Rowstron and Frans Kaashoek, he started the IPTPS series of workshops. Peter is a member of the Academia Europaea and the German Academy of Sciences Leopoldina. Peter received his Ph.D. from the University of Arizona in 1994, under the direction of Larry L. Peterson.

9:30am - 9:50am Tea break

9:50am - 11:30am Session 4 - Cloud computing and data center (Chair:Wenguang Chen)

### One Optimized I/O Configuration per HPC application : Leveraging the Configurability of Cloud

Mingliang Liu, Jidong Zhai, Yan Zhai (Tsinghua University), Xiaosong Ma (North Carolina State University), and Wenguang Chen (Tsinghua University)

### SLIM: Mmap from the Cloud to Device, and Back

Jinghao Shi (University of Science and Technology of China), Mingyuan Xia (Shanghai Jiao Tong University), and Ming Wu, Lintao Zhang, and Zheng Zhang (Microsoft Research Asia)

### A Case for RDMA in Clouds:Turning Supercomputer Networking into Commodity

Animesh Trivedi, Bernard Metzler, and Patrick Stuedi (IBM Research Zurich)

### SPECTRE: Speculation to hide communication latency

Jean-Philippe Martin, Christopher J. Ross ach, and Michael Isard (Microsoft Research)

### A better way to negotiate for testbed resources

Qin Yin and Timothy Roscoe (Systems Group, ETH Zurich)

11:45am - 1:00pm Lunch

1:30pm - 4:30pm Local excursion in Chinese Pavillion at World Expo