

Flikker: Saving DRAM Refresh-power through Critical Data Partitioning, Song Liu¹, Karthik Pattabiraman², Thomas Moscibroda³, Benjamin Zorn³ (¹Northwestern University, ²University of British Columbia, ³Microsoft Research)

MemScale: Active Low-Power Modes for Main Memory, Qingyuan Deng¹, David Meisner², Luiz Ramos¹, Thomas Wensch², Ricardo Bianchini¹ (¹Rutgers University, ²University of Michigan)

Lunch 12:00PM - 1:30PM

Held in *Rose Garden*

Sponsored by **Intel and HP**

Session VIII 1:30PM - 2:45PM

Recognizing Software and Concurrency Bugs

Chair: Emery Berger (University of Massachusetts, Amherst)

2ndStrike: Towards Manifesting Hidden Concurrency Typestate Bugs, Qi Gao¹, Wenbin Zhang², Zhezhe Chen², Mai Zheng², Feng Qin² (¹Facebook, Inc., ²The Ohio State University)

ConSeq: Detecting Concurrency Bugs through Sequential Errors, Wei Zhang, Junghee Lim, Ramya Olichandran, Joel Scherpelz, Guoliang Jin, Shan Lu, Thomas Reps (University of Wisconsin, Madison)

S2E: A Platform for In Vivo Multi-Path Analysis of Software Systems, Vitaly Chipounov, Volodymyr Kuznetsov, George Candea (EPFL)

Session IX 3:20PM - 4:10PM

Rethinking and Protecting Operating Systems

Chair: Orran Krieger (VMware)

Ensuring Operating System Kernel Integrity with OSck, Owen Hofmann, Alan Dunn, Sangman Kim, Indrajit Roy, Emmett Witchel (The University of Texas at Austin)

Rethinking the Library OS from the Top Down, Donald Porter¹, Silas Boyd-Wickizer², Jon Howell³, Reuben Olinsky³, Galen Hunt³ (¹Stony Brook University, ²Massachusetts Institute of Technology, ³Microsoft Research)

Session X 4:10PM - 5:00PM

Learning from the Past: Drawing Conclusions from Extensive Measurement Studies

Chair: Orran Krieger (VMware)

Faults in Linux: Ten Years Later, Nicolas Palix¹, Gaël Thomas², Suman Saha², Christophe Calvès², Julia Lawall³, Gilles Muller⁴ (¹DIKU, ²LIP6-Regal, ³DIKU/INRIA/LIP6-Regal, ⁴INRIA/LIP6-Regal)

Looking Back on the Language and Hardware Revolutions: Measured Power, Performance, and Scaling, Hadi Esmaeilzadeh¹, Ting Cao², Xi Yang², Stephen Blackburn², Kathryn McKinley¹ (¹The University of Texas at Austin, ²Australian National University)

**BANQUET
6:30PM - 10:30PM**

Dinner Cruise

Sponsored by **Oracle, AMD, Microsoft Research, IBM**

(Buses will leave the hotel at 6:30PM)

Wednesday, March 9

(All sessions held in *Newport Coast Ballroom*)

Breakfast 7:30AM - 8:30AM

Session XI 8:30AM - 9:45AM

New Compiler Optimizations

Chair: Scott Mahlke (University of Michigan)

Synthesizing Concurrent Schedulers for Irregular Algorithms, Donald Nguyen and Keshav Pingali (The University of Texas at Austin)

Exploring circuit timing-aware languages and compilation, Giang Hoang, Robert Bruce Findler, Russ Joseph (Northwestern University)

Orchestration by Approximation: Mapping Stream Programs Onto Multi-Core Architectures, Sardar M. Farhad¹, Yousun Ko², Bernd Burgstaller², Bernhard Scholz¹ (¹The University of Sydney, ²Yonsei University)

Session XII 10:20AM - 11:10AM

Exploiting Parallelism on GPUs

Chair: Kunle Olukotun (Stanford University)

On-the-Fly Elimination of Dynamic Irregularities for GPU Computing, Eddy Zhang, Yunlian Jiang, Ziyu Guo, Kai Tian, Xipeng Shen (The College of William and Mary)

Sponge: Portable Stream Programming on Graphics Engines, Amir Hormati, Mehrzad Samadi, Mark Woh, Trevor Mudge, Scott Mahlke (University of Michigan)

Session XIII 11:10AM - 12:00PM

Novel Performance Improvements

Chair: Kunle Olukotun (Stanford University)

Inter-core Prefetching for Multicore Processors Using Migrating Helper Threads, Md Kamruzzaman, Steven Swanson, Dean Tullsen (UCSD)

Improving the Performance of Trace-based Systems by False Loop Filtering, Hiroshige Hayashizaki, Peng Wu, Hiroshi Inoue, Mauricio Serrano, Toshio Nakatani (IBM)

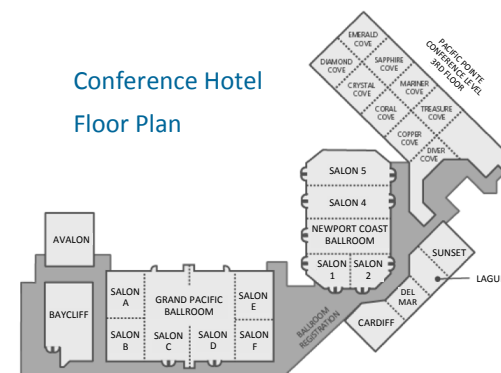


ASPLOS 2011

Newport Beach, California



Conference Hotel Floor Plan



Saturday, March 5

Workshop & Tutorial	8:00AM - 5:00PM
Full-day Events	
(F1) Workshop on General-Purpose Computation on Graphics Processing Units (Held in <i>Cardiff</i>) David Kaeli (NEU), John Cavazos (University of Delaware)	
(F2) Runtime Environments/Systems, Layering, and Virtualized Environments (Held in <i>Del-Mar</i>) Alex Garthwaite (VMware), Orran Krieger (VMware)	
Breakfast	7:30AM - 8:30AM
Morning Break	10:00AM - 10:30AM
Lunch (not included)	12:00PM - 1:30PM
Afternoon Break	3:00PM - 3:30PM

Sunday, March 6

Workshop & Tutorial	8:00AM - 5:00PM
Full-day Events	
(F1) Workshop on Determinism and Correctness in Parallel Programming (Held in <i>Cardiff</i>) Vikram Adve (UIUC), Luis Ceze (University of Washington), Bryan Ford (Yale)	
(F2) Workshop on Multicore Systems – Architectures, Runtime Systems and Software Development (Held in <i>Laguna & Sunset</i>) Mary Jane Irwin (Penn State), Mary Lou Soffa (University of Virginia)	
Morning Events	
(M1) Exascale Evaluation and Research Techniques Workshop (Held in <i>Del-Mar</i>) David Meisner (University of Michigan)	
Afternoon Events	
(A1) Computing in Heterogeneous, Autonomous 'N' Goal-oriented Environments (Held in <i>Del-Mar</i>) Henry Hoffmann (MIT), Marco D. Santambrogio (PoliMi/MIT)	
Breakfast	7:30AM - 8:30AM
Morning Break	10:00AM - 10:30AM
Lunch (not included)	12:00PM - 1:30PM
Afternoon Break	3:00PM - 3:30PM

OPENING RECEPTION AND POSTER SESSION 6:30PM - 9:30PM

Held in *Newport Coast Ballroom*
Sponsored by **VMware**

Monday, March 7

(All sessions held in *Newport Coast Ballroom*)

Breakfast	7:30AM - 8:15AM
Chair's Welcome Rajiv Gupta (UC Riverside) and Todd Mowry (CMU)	8:15AM - 8:30AM
Keynote The Cloud Will Change Everything Jim Larus (Microsoft Research)	8:30AM - 9:45AM
Session I Better Logging Support for Software Debugging Chair: Michael Swift (University of Wisconsin-Madison)	10:20AM - 11:10AM
Improving Software Diagnosability via Log Enhancement, Ding Yuan ¹ , Jing Zheng ² , Soyeon Park ² , Yuanyuan Zhou ² , Stefan Savage ² (¹ University of Illinois, Urbana-Champaign and University of California, San Diego, ² University of California, San Diego)	
DoublePlay: Parallelizing sequential logging and replay, Kaushik Veeraraghavan, Dongyoon Lee, Benjamin Wester, Jessica Ouyang, Peter Chen, Jason Flinn, Satish Narayanasamy (University of Michigan)	
Session II Understanding and Improving Transactional Memory Chair: Michael Swift (University of Wisconsin-Madison)	11:10AM - 12:00PM
Hardware Acceleration of Transactional Memory on Commodity Systems, Jared Casper, Tayo Oguntebi, Sungpack Hong, Nathan Bronson, Christos Kozyrakis, Kunle Olukotun (Stanford University)	
Hybrid NOrec: A Case Study in the Effectiveness of Best Effort Hardware Transactional Memory, Luke Dalessandro ¹ , Fraincois Carouge ² , Sean White ² , Yossi Lev ³ , Mark Moir ³ , Michael Scott ¹ , Michael Spear ² (¹ University of Rochester, ² Lehigh University, ³ Sun Labs at Oracle)	
Lunch Held in <i>Rose Garden</i> Sponsored by Google	12:00PM - 1:30PM
Session III Innovations in Memory Ordering Models for Parallel Machines Chair: James Laudon (Google)	1:30PM - 2:45PM
Efficient Processor Support for DRFx, a Memory Model with Exceptions, Abhayendra Singh ¹ , Daniel Marino ² , Satish Narayanasamy ¹ , Todd Millstein ² , Madanlal Musuvathi ³ (¹ University of Michigan, Ann Arbor, ² University of California, Los Angeles, ³ Microsoft Research)	
RCDC: A Relaxed-Consistency Deterministic Computer, Joseph Devietti, Jacob Nelson, Tom Bergan, Luis Ceze, Dan Grossman (University of Washington)	
Specifying and Checking Semantic Atomicity for Multithreaded Programs, Jacob Burnim, George Necula, Koushik Sen (University of California, Berkeley)	

Session IV Programming for Persistent Memory Chair: Thomas F. Wenisch (University of Michigan)	3:20PM - 4:10PM
--	------------------------

Mnemosyne: Lightweight Persistent Memory, Haris Volos, Andres Jaan Tack, Michael Swift (University of Wisconsin-Madison)	
NV-Heaps: Making Persistent Objects Fast and Safe with Next-Generation, Non-Volatile Memories, Joel Coburn, Adrian M. Caulfield, Ameen Akel, Laura M. Grupp, Rajesh K. Gupta, Ranjit Jhala, Steven Swanson (University of California, San Diego)	
Session V Enhancing Device Driver Reliability Chair: Yuanyuan Zhou (UC San Diego)	4:10PM - 5:00PM
A declarative language approach to device configuration, Adrian Schüpbach, Andrew Baumann, Timothy Roscoe, Simon Peter (ETH Zurich)	
Improved Device Driver Reliability Through Hardware Verification Reuse, Leonid Ryzhyk ¹ , John Keys ² , Balachandra Mirla ¹ , Arun Raghunath ² , Mona Vij ² , Gernot Heiser ¹ (¹ NICTA & UNSW, ² Intel)	
Ideas and Perspectives Session Chair: Ras Bodik (UC Berkeley) Sponsored by Qualcomm	5:30PM - 7:00PM

Tuesday, March 8

(All sessions held in *Newport Coast Ballroom*)

Breakfast	7:30AM - 8:30AM
Session VI Novel Computing Platforms Chair: Luis Ceze (University of Washington)	8:30AM - 9:45AM
A Case for Neuromorphic ISAs, Atif Hashmi, Andrew Nere, James Thomas, Mikko Lipasti (University of Wisconsin - Madison)	
Mementos: System Support for Long-Running Computation on RFID-Scale Devices, Benjamin Ransford ¹ , Jacob Sorber ² , Kevin Fu ¹ (¹ University of Massachusetts Amherst, ² Dartmouth College)	
Pocket Cloudlets, Emmanouil Koukoumidis ¹ , Dimitrios Lymberopoulos ² , Karin Strauss ² , Jie Liu ² , Doug Burger ² (¹ Princeton University, ² Microsoft Research)	
Session VII Saving Power and Energy Chair: Jim Larus (Microsoft Research)	10:20AM - 12:00PM
Blink: Managing Server Clusters on Intermittent Power, Navin Sharma, Sean Barker, David Irwin, Prashant Shenoy (University of Massachusetts at Amherst)	
Dynamic Knobs for Power-Aware Computing, Henry Hoffman, Stelios Sidiroglou, Michael Carbin, Sasa Misailovic, Anant Agarwal, Martin Rinard (MIT)	