

# HPCC-09 PROGRAM AT A GLANCE

June 25, 2009 (Thursday)			
	Registration		
12:45-13:00	Opening Remarks		
13:00-15:30	<b>S1: Algorithms &amp; Applications I</b>	<b>S2: Reliability, Fault-Tolerance &amp; Security</b>	<b>AHPCN/S1: Parallel, Distributed &amp; Grid Computing I</b>
15:30-16:00	Coffee Break		
16:00-18:30	<b>S3: Algorithms &amp; Applications II</b>	<b>S4: Privacy &amp; Network Communications</b>	<b>AHPCN/S2: Parallel, Distributed &amp; Grid Computing II</b>
	Reception		
June 26, 2009 (Friday)			
09:00	Registration		
09:30-10:30	Keynote 1 (ISA 2009): <b>RFID and USN Technologies and their Security Issues</b> by <b>Dr. Kyo-il Chung</b> , <i>Electronics and Telecommunication Research Institute (ETRI), Korea</i>		
10:30-11:00	Coffee Break		
11:00-12:00	Keynote 2: <b>Energy-Aware Scheduling and Resource Allocation for Large-Scale Distributed Systems</b> by <b>Prof. Albert Y. Zomaya</b> , <i>The University of Sydney, Australia</i>		
12:00-13:00	Lunch		
13:00-15:30	<b>S5: Architectures &amp; Systems</b>	<b>S6: Wireless &amp; Mobile Communications I</b>	<b>AHPCN/S3: Algorithms &amp; Applications</b>
15:30-16:00	Coffee Break		
16:00-17:30	<b>Panel: "Software development and deployment challenges for next generation computer architectures"</b> <b>Moderator: Edgar Gabriel</b> <b>Panelists: Jeremie Allard, Xiaolin (Andy) Li, Justin Y. Shi, Felix Wolf, Yunquan Zhang, Albert Y. Zomaya</b>		
19:00	Banquet		
June 27, 2009 (Saturday)			
09:00	Registration		
09:30-10:30	Keynote 3: <b>Virtual Clusters for Grid, Cloud, and High-performance Computing</b> by <b>Prof. Kai Hwang</b> , <i>University of Southern California, USA</i>		
10:30-11:00	Coffee Break		
11:00-12:00	Keynote 4 (ISA 2009): <b>Cloud Computing Security</b> by <b>Prof. Jong Sou Park</b> , <i>Korea Aerospace University, Korea</i>		
12:00-13:00	Lunch		
13:00-15:30	<b>S7: Grid, Cluster &amp; Parallel Computing I</b>	<b>S8: Wireless &amp; Mobile Communications II</b>	<b>AHPCN/S4: Architectures &amp; Networks I</b>
15:30-16:00	Coffee Break		
16:00-18:30	<b>S9: Grid, Cluster &amp; Parallel Computing II</b>	<b>IWPAPS</b>	<b>MMA &amp; NSDM</b> <b>AHPCN/S5: Architectures &amp; Networks II</b>

# DETAILED SCHEDULE FOR HPCC-09

June 25, 2009 (Thursday)

## Registration

12:45-13:00: Opening Remarks

13:00-15:30: Parallel Sessions S1, S2 and AHPCN/S1

### S1: Algorithms & Applications I (Chair: Josep-Lluis Larriba-Pey)

**Fast Parallel Expectation Maximization for Gaussian Mixture Models on GPUs using CUDA**

*Phani Kumar Nyshadham, Sanjiv Satoor, Ian Buck*

**A Hybrid System with Hidden Markov Models and Gaussian Mixture Models for Myocardial Infarction Classification with 12-Lead ECGs**

*Pei-Chann Chang, Jui-Chien Hsieh, Jyun-Jie Lin, Yen-Hung Chou*

**A Massively Parallel Approach to Affine Transformation in Medical Image Registration**

*Huynh Luong, Jong Myon Kim*

**Scheduling Large-Scale DNA Sequencing Applications**

*Sudha Gunturu, Xiaolin Li, Laurence Yang*

**Dynamic Communication-Efficient Parallel Sorting on SMPs**

*Tipraporn Thanakulwarapas, Jeeraporn Werapun*

**Parallel Dense Gauss-Seidel Algorithm on Many-Core Processors**

*Hadrien Courtecuisse, Jeremie Allard*

### S2: Reliability, Fault-Tolerance & Security (Chair: Justin Y. Shi)

**Reliability Optimization of Reconfigurable Computing Based Fault-Tolerant System**

*Mi Zhou, Li Hong Shang, Yu Hu*

**A Mixed Software Rejuvenation Policy for Multiple Degradations Software System**

*Xiaozhi Du, Yong Qi, Di Hou*

**N-Level Diskless Checkpointing**

*Doug Hakkarinen, Zizhong Chen*

**Fast Live Cloning of Virtual Machine Based on Xen**

*Yifeng Sun, Yingwei Luo, Xiaolin Wang, Zhenlin Wang, Binbin Zhang, Haogang Chen, Xiaoming Li*

**A Pattern-Based General Security Framework: An eBusiness Case Study**

*Azzedine Benameur, Smriti K.Sinha, Ayda Saidane*

**Polymorphic Worm Detection Using Signatures Based on Neighborhood Relation**

*Jie Wang, Jianxin Wang, Jianer Chen*

### AHPCN/S1: Parallel, Distributed & Grid Computing I (Chair: Felix Wolf)

**MigBSP: A Novel Migration Model for Bulk-Synchronous Parallel Processes Rescheduling**

*Rodrigo Righi, Laercio Pilla, Alexandre Carissimi, Philippe Navaux, Hans-Ulrich Heiss*

**A Comparison of Two Master-worker Scheduling Methods**

*Luis de la Torre, Jaime Seguel*

**A Non-Critical Path Earliest-Finish Algorithm for Inter-dependent Tasks in Heterogeneous Computing Environments**

*Liang-Teh Lee, Ching-Wei Chen, Hung-Yuan Chang, Chih-Chieh Tang, Kun-Chi Pan*

**Towards Predictive Modeling of Message-Passing Communication**

*Verdi March, Vijayaraghavan Murali, Teo Yong Meng, Simon See, James Himer*

**Parallelization and Performance Analysis of an IMPES-based Oil-Water Reservoir Simulator**

*Fadi Sibai, Hashir Kidwai*

**Adjacency-Based Mesh Process Mapping for Irregular Cluster Systems**  
*Sangman Moh*

**15:30-16:00: Coffee Break**

**16:00-18:30: Parallel Sessions S3, S4 and AHPCN/S2**

**S3: Algorithms & Applications II (Chair: Zizhong Chen)**

**Matrix Inversion on the Cell/B.E. Processors**

*Shodai Yokoyama, Kazuya Matsumoto, Stanislav Sedukhin*

**Kahn Process Networks are a Flexible Alternative to MapReduce**

*Zeljko Vrba, Paal Halvorsen, Carsten Griwodz, Paul Beskow*

**Efficient Mining of Weighted Frequent Patterns Over Data Streams**

*Chowdhury Farhan Ahmed, Syed Khairuzzaman Tanbeer, Byeong-Soo Jeong, Young-Koo Lee*

**Parallel and Distributed Frequent Pattern Mining in Large Databases**

*Syed Khairuzzaman Tanbeer, Chowdhury Farhan Ahmed, Byeong-Soo Jeong*

**Cache-aware Load Balancing vs Cooperative Caching for Distributed Search Engines**

*David Domínguez-Sal, Marta Pérez-Casany, Josep Lluís Larriba-Pey*

**A Flexible Two-Layer Buffer Caching Scheme for Shared Storage Server**

*Meng Xiaoxuan, Si Chengxiang, Na Wenwu, Xu Lu*

**S4: Privacy & Network Communications (Chair: Karim Djemame)**

**A New Grid-Based Cloaking Algorithm for Privacy Protection in Location-Based Services**

*Jungho Um, Hyeongil Kim, Youngho Choi, Jaewoo Chang*

**Adaptive Voice Spam Control with User Behavior Analysis**

*Yan Bai, Xiao Su, Bharat Bhargava*

**Frame-based Architecture with Shared Buffers for Slotted Optical Packet Switching**

*Guan-Hong Zhou, Woei Lin*

**Efficient Java Communication Libraries over InfiniBand**

*Guillermo L. Taboada, Juan Touriño, Ramón Doallo, Yao Lin, Jizhong Han*

**6LoWPAN-SNMP: Simple Network Management Protocol for 6LoWPAN**

*Haksoo Choi, Nakyoung Kim, Hojung Cha*

**On Achieving the Maximum Internet Capacity in Wireless Mesh Networks**

*Bin Xie, Haitong Wang, Dharma Agrawal*

**AHPCN/S2: Parallel, Distributed & Grid Computing II (Chair: Iván Roderó)**

**A Software Framework to Support Adaptive Applications in Distributed/Parallel Computing**

*Hao Liu, Søren-Aksel Sørensen, Amril Nazir*

**A Lightweight Approach of Automatic Resource Configuration in Distributed Computing**

*Hao Liu, Søren-Aksel Sørensen, Amril Nazir*

**A Performance-based Dynamic Loop Partitioning on Grid Computing Environments**

*Chao-Tung Yang, Lung-Hsing Cheng*

**Experiences of On-demand Execution for Large Scale Parameter Sweep Applications on OSG by Swift**

*Zhengxiong Hou, Mike Wilde, Mihael Hategan, Xingshe Zhou, Ian Foster, Ben Clifford*

**A Study of Bare PC Web Server Performance for Workloads with Dynamic and Static Content**

*Long He, Ramesh Karne, Alexander Wijesinha, Ali Emdadi*

**VL-DSC: A Dynamic Services Composition Based Model for Virtual Laboratory Platform and Its Implementation**

*Jianxin Wang, Qinglong Zhang, Songqiao Chen, Zhaohui Xie*

**Reception**

**June 26, 2009 (Friday)**

**09:00- : Registration**

**09:30-10:30: Keynote 1 (ISA 2009): “RFID and USN Technologies and their Security Issues”**

*Dr. Kyo-il Chung, Electronics and Telecommunication Research Institute (ETRI), Korea*

**10:30-11:00: Coffee Break**

**11:00-12:00: Keynote 2: “Energy-Aware Scheduling and Resource Allocation for Large-Scale Distributed Systems”**

*Prof. Albert Y. Zomaya, The University of Sydney, Australia*

**12:00-13:00: Lunch**

**13:00-15:30: Parallel Sessions S5, S6 and AHPCN/S3**

**S5: Architectures & Systems (Chair: Xiaolin Li)**

**Performance of Triplet based Interconnection Strategy for Multi-Core On-Chip Processors**

*Haroon-Ur-Rashid Khan, Shi Feng, Ji Weixing*

**Dynamically Filtering Thread-Local Variables in Lazy-Lazy Hardware Transactional Memory**

*Sutirtha Sanyal, Adrián Cristal, Osman Unsal, Mateo Valero, Sourav Roy*

**On the Performance of Commit-Time-Locking Based Software Transactional Memory**

*Zhengyu He, Bo Hong*

**Balancing Data Locality and Parallelism on Shared-cache Multi-core Systems**

*Michael Jason Cade, Apan Qasem*

**On Instruction-Level Method for Reducing Cache Penalties in Embedded VLIW Processors**

*Samir Ammenouche, Sid Ahmed Ali Touati, William Jalby*

**Automated Design of Logic Circuits with an Inceasable Evolution Approach**

*Guoliang He, Naixue Xiong, Laurence T. Yang, Yuanxiang Li*

**S6: Wireless & Mobile Communications I (Chair: Bin Xie)**

**A Priority-based Hybrid Protocol in Wireless Sensor Networks**

*Hsu-Jung Liu, Mei-Wen Huang, Wen-Shyong Hsieh, Chenhuan Jack Jan*

**A Compensation-based Reliable Data Delivery for Instant Wireless Sensor Network**

*Yi-Ying Zhang, Xi Luo, Myong-Soon Park, Laurence T Yang, Lei Shu, Weiwei Fang*

**Dynamic Routing Layer for Data Query in Wireless Sensor Networks**

*Zusheng Zhang, Fengqi Yu, Liang Chen*

**Neighbors Investment Geographic Routing Algorithm in Wireless Sensor Network**

*Jianxin Wang, Huiyu Liu, Xiangning Zhao*

**A Potential Based Routing Protocol for Mobile Ad Hoc Networks**

*Dai-Young Kwon, Jae-Hwa Chung, Kyeong Hur, Won-Gyu Lee*

**Link Quality Aware Route Discovery for Robust Routing and High Performance in Mobile Ad Hoc Networks**

*Sangman Moh*

**AHPCN/S3: Algorithms & Applications (Chair: Jaime Seguel)**

**A Hybrid Genetic-Immune Algorithm with Improved Offsprings and Elitist Antigen for Flow-shop Scheduling Problems**

*Pei-Chann Chang, Wei-Hsiu Huang, Ching-Jung Ting, Ling-Chun Wu*

**A Varietal Genetic Algorithm by External Self-evolving Multiple-archives for Combinatorial Optimization Problems**

*Pei-Chann Chang, Wei-Hsiu Huang, Ching-Jung Ting, Wei-Je Chang, Chia-Hua Chang*  
**A Coarse-grained Parallel Genetic Algorithm with Migration for Shortest Path Routing Problem**  
*Salman Yussof, Rina Azlin Razali, Hang See Ong, Azimah Abd Ghapar, Marina Md Din*  
**On Mining Repeating Pattern with Gap Constraint**  
*Shin-Yi Chiu, Shih-Chuan Chiu, Jiun-Long Huang*  
**KBS-MAQAO: A Knowledge Based System for MAQAO Tool**  
*Lamia Djoudi, William Jalby*  
**Networked Haptic Virtual Environments Supporting Ultra High Resolution Display**  
*Seokho Son, Vinay Ramachandra, JongWon Kim*

**15:30-16:00: Coffee Break**

**16:00-17:30: Panel: Software development and deployment challenges for next generation computer architectures**

**Moderator: Edgar Gabriel**

**Panelists: Jeremie Allard, Xiaolin (Andy) Li, Justin Y. Shi, Felix Wolf, Yunquan Zhang, Albert Y. Zomaya**

**19:00 : Banquet (Holyday Inn Seongbuk Hotel)**

## **June 27, 2009 (Saturday)**

**09:00- : Registration**

**09:30-10:30: Keynote 3: “Virtual Clusters for Grid, Cloud, and High-performance Computing”**

*Prof. Kai Hwang, University of Southern California, USA*

**10:30-11:00: Coffee Break**

**11:00-12:00: Keynote 4 (ISA 2009): “Cloud Computing Security”**

*Prof. Jong Sou Park, Korea Aerospace University, Korea*

**12:00-13:00: Lunch**

**13:00-15:30: Parallel Sessions S7, S8 and AHPCN/S4**

**S7: Grid, Cluster & Parallel Computing I (Chair: Verdi March)**

**Evaluation of Coordinated Grid Scheduling Strategies**

*Iván Rodero, Francesc Guim, Julita Corbalán*

**Online Metatask Scheduling Heuristics for a Bidding-based Distributed System**

*Chien-Min Wang, Hsi-Min Chen, Chun-Chen Hsu*

**Graph-based Task Replication for Workflow Applications**

*Raúl Sirvent, Rosa M. Badía, Jesús Labarta*

**A Cost Efficient Framework for Managing Distributed Resources in a Cluster Environment**

*Amril Nazir, Hao Liu, Søren-Aksel Sørensen*

**Evaluating Provider's Risk Assessment Reliability in Grid Resource Brokering**

*Iain Gourlay, Karim Djemame, James Padgett*

**A Streaming Intrusion Detection System for Grid Computing Environments**

*Matthew Smith, Fabian Schwarzer, Marian Harbach, Thomas Noll, Bernd Freisleben*

**S8: Wireless & Mobile Communications II** (Chair: Albert Y. Zomaya)

**Design of Structure-Free and Energy-Balanced Data Aggregation in Wireless Sensor Networks**

*Chih-Min Chao, Tzu-Ying Hsiao*

**A High Energy Efficient Localization Algorithm for Wireless Sensor Networks Using Directional Antennas**

*Baoli Zhang, Fengqi Yu*

**Localization of Wireless Sensor Networks Using a Moving Beacon with a Directional Antenna**

*Yao-Hung Wu, Wei-Mei Chen*

**A Game Theory based Load-Balancing Routing with Cooperation Stimulation for Wireless Ad Hoc Networks**

*Fan Jiang*

**Efficient Geo-Tracking and Adaptive Routing of Mobile Assets**

*Dineshbalu Balakrishnan, Amiya Nayak, Pulak Dhar, Shailesh Kaul*

**Adaptive Multi-Channel Utilization Scheme for Coexistence of IEEE802.15.4 LR-WPAN with Other Interfering Systems**

*Kwang-il Hwang*

**AHPCN/S4: Architectures & Networks I** (Chair: Yunquan Zhang)

**Performance Analysis of NAND Flash-based SSD for designing a Hybrid Filesystem**

*Jinsun Suk, Jaechun No*

**Orthogonal Instruction Encoding for a 16-bit Embedded Processor with Dynamic Implied Addressing Mode**

*Daeho Kim, Jonghee M. Youn, Minwook Ahn, Yunheung Paek*

**SSARC: the Short-Sighted Adaptive Replacement Cache**

*Zhiguang Chen, Nong Xiao, Yingjie Zhao, Zhong'an Lao*

**Double Binary Turbo Coding for BPPM-TH and BPAM-DS UWB Systems**

*Eun Cheol Kim, Jin Young Kim*

**packetC Language for High Performance Packet Processing**

*Ralph Duncan, Peder Jungck*

**General Euler Hadamard/DFT/DCT Polynomial Function for Complex Signal Processing**

*Jia Hou, Moon Ho Lee, Ju Yong Park*

**15:30-16:00: Coffee Break**

**16:00-18:30: Parallel Sessions S9, IWPAPS, MMAP & NSDM, and AHPCN/S5**

**S9: Grid, Cluster & Parallel Computing II** (Chair: Matthew Smith)

**Grid Network Dimensioning by Modeling the Deadline Constrained Bulk Data Transfers**

*Kashif Munir, Pascale Primet, Michael Welzl*

**Resource Leasing and the Art of Suspending Virtual Machines**

*Borja Sotomayor, Rubén S. Montero, Ignacio M. Llorente, Ian Foster*

**Performance Evaluation of Unified Parallel C Collective Communications**

*Guillermo L. Taboada, Carlos Teijeiro, Juan Touriño, Basilio B. Fraguera, Ramón Doallo, José Carlos Mourinho, Damián A. Mallón, Andrés Gómez.*

**A Simple Performance Model for Multithreaded Applications Executing on Non-Uniform Memory Access Computers**

*Rui Yang, Joseph Antony, Alistair Rendell*

**Decoupling As a Foundation for Large Scale Parallel Computing**

*Justin Y. Shi*

**A Framework for Effective Memory Optimization of High Performance Computing Applications**

*Pingjing Lu, Yonggang Che, Zhenghua Wang*

## IWPAPS

### **Performance Evaluation of Multithreaded Sparse Matrix-Vector Multiplication using OpenMP**

*Shengfei Liu, Yunquan Zhang, Xiangzheng Sun, RongRong Qiu*

### **A Parallel Memory Efficient Framework for Out-of-Core Meshes Simplification**

*Yongquan Lu, Nan Li, Pengdong Gao, Chu Qiu, Jintao Wang, Rui Lv*

### **A Task-Based Fault-Tolerance Mechanism to Hierarchical Master/Worker with Divisible Tasks**

*Zhihui Dai, Fabien Viale, Xuebin Chi, Denis Caromel*

### **A Parallel Refined Block Arnoldi Algorithm for Large Unsymmetric Matrices**

*Tao Zhao, Jinrong Jiang, Jun Liu, Xuebin Chi, Zhonghua Lu*

### **QuantWiz: A Parallel Software Package for LC-MS-based Label-free Protein Quantification**

*Wang Jing, Zhang Yunquan, Zhang Xianyi, Sun Xiangzheng, Hu Zelin, Li Sujun, Zeng Rong*

### **RCC: A New Programming Language for Reconfigurable Computing**

*Fengbin Qi, Xianyi Zhang, Shanshan Wang, Xingquan Mao*

## MMAP & NSDM

### **A Quantitative Study of Memory System Interference in Chip Multiprocessor Architectures**

*Magnus Jahre, Marius Grannaes, Lasse Natvig*

### **A Case Study for Fault Tolerance Oriented Programming in Multi-core Architecture**

*Lu Yang, Zhanqi Cui, Xuandong Li*

### **Dynamic Resource Management for Longevity in Web Server Systems**

*Seok-Bong Choi, Jong-Kook Kim*

### **C2Cfs: A Collective Caching Architecture for Distributed File Access**

*Andrey Ermolinskiy*

### **RDPA: Reliability-aware Data Placement Algorithm for Large-scale Network Storage Systems**

*Tao Chen, Fang Liu, Nong Xiao*

### **Volume based Metadata Isolation in Blue Whale Cluster File System**

*Zhang Jing-Liang, Zhang Jian-Gang, Han Xiao-Ming, Xu Lu*

## AHPCN/S5: Architectures & Networks II (Chair: Jeremie Allard)

### **Designing and Implementing an IEEE 802.16 Network Simulator for Performance Evaluation of Bandwidth Allocation Algorithms**

*Yuan-Cheng Lai, Yen-Hung Chen*

### **Achieving Sub-second IGP Convergence through OSPF Distributed in Scalable Router**

*XueZhi Jiang, Mingwei Xu, Qi Li, Lingtao Pan*

### **An ECN-Based Congestion Control Algorithm for TCP Enhancement in Wireless LAN**

*Jiawei Huang, Jianxin Wang*

### **A Hierarchical Localization Scheme for Large Scale Underwater Wireless Sensor Networks**

*Yi Zhou, Kai Chen, Jianhua He, Jianbo Chen, Alei Liang*

### **Adaptive Vertical Handoff Decision Algorithm for Wireless Heterogeneous Networks**

*Anita Singhrova, Nupur Prakash*

### **Detection and Location of Evil Nodes Based on Source Coding and Multi-path Transmission in WSN**

*Weiping Wang, Jinhong Xu, Jianxin Wang*