

2008 International Conference on High Performance Switching and Routing (HPSR 2008)

May 15-17
Shanghai Jiao Tong University
Shanghai, China

Program



May 15, 2008

8:00 AM Registration

9:00 – 12:00 PM Tutorial 1: Hierarchical Routing in GMPLS Controlled and Interconnected
Multi-Domain Optical Transport Networks
Presenter: Dr. Fuming Wu, Texas A&M International University

9:00 – 12:00 PM Tutorial 2: Networking Virtualization
Presenter: Dr. Omar Cherkaoui, University of Quebec

12:00 – 1:30 PM Lunch

1:30 – 4:30 PM Tutorial 1 continues

May 16, 2008

- 8:00 AM Registration
- 9:00 – 10:00 Keynote Speech
- 10:00 – 10:30 Coffee Break
- 10:30 – 12:00 Session 1: Router Architecture and Design
Session Chair: Qin Xin (Simula Research Laboratory, NO)
- Routers with Coding and Performance Simulation
Xin Wang (Fudan University, CN); Min Lin (Fudan University, CN); Zheng Huang (Fudan University, CN); Xiangyang Xue (Fudan University, CN)
- Distributed PC Based Routers: Bottleneck Analysis and Architecture Proposal
Azeem Khan (IIT Bombay, IN); Robert Birke (Politecnico di Torino, IT); D. Manjunath (Indian Institute of Technology, Bombay, IN); Andrea Bianco (Politecnico di Torino, IT); Anirudha Sahoo (IIT Bombay, IN)
- Distributed and Scalable MPLS Architecture for Next Generation Routers
Kim-Khoa Nguyen (Concordia University, CA); Brigitte Jaumard (Concordia University, CA)
- Routing Schemes for Network Recovery under Link and Node Failures
Roberto Rojas-Cessa (New Jersey Institute of Technology, US)
- 10:30 – 12:00 Session 2: Flow Control, Congestion Control, and Route Lookup
Session Chair: Jianping Wang (City University of Hong Kong, HK)
- Flow Control in Output Buffered Switch with Input Groups
Wladek Olesinski (Sun Microsystems, US); Hans Eberle (Sun Microsystems, US); Nils Gura (Sun Microsystems Inc., US); Nikolaos Chrysos (Foundation for Research and Technology (FORTH), GR)
- Internal Congestion Control in a Cluster-based Router
Qinghua Ye (University of Alberta, CA); Mike MacGregor (University of Alberta, CA)
- Towards unified self-congestion probing for bandwidth measurement
Xiaojun Hei (Hong Kong University of Science and Technology, CN); Shan Chen (The Hong Kong University of Science and Technology, HK); Brahim Bensaou (The Hong Kong University of Science and Technology, HK); Danny Tsang (HKUST, HK)
- An Improved TCAM-Based IP Lookup Engine
Hui Yu (University of Texas at Dallas, US); Jing Chen (University of Texas at Dallas, US); Jianping Wang (City University of Hong Kong, HK); Si-Qing Zheng (University of Texas at Dallas, US); Mehrdad Nourani (University of Texas at Dallas, US)
- 10:30 – 12:00 Session 3: Optical Switching Network
Session Chair: Hussein Mouftah (University of Ottawa, CA)

Proactive Routing under Conversion Cascading Constraint in Optical Burst Switching Networks

Xingbo Gao (University of Central Florida, US)

Preemption Scheme for Providing Rate Fairness in Optical Burst Switching Networks

Tananun Orawiwattanukul (The Graduate University for Advanced Studies, JP); Yusheng Ji (National Institute of Informatics, JP)

Constructions and Analysis of Crosstalk-free Optical Queues

Hao-Wei Lan (National Tsing Hua University, TW); Cheng-Shang Chang (National Tsing Hua University, TW); Jay Cheng (National Tsing Hua University, TW); Duan-Shin Lee (National Tsing Hua University, TW)

Parallel Distributed Lightpath Control and Management for Survivable Optical Mesh Networks

Emad Al-Sukhni (University of Ottawa, CA); Hussein Mouftah (University of Ottawa, CA)

12:00 – 1:30 Lunch

1:30 – 3:00 Session 4: Switch Architecture and Design
Session Chair: Kwan Yeung (University of Hong Kong, HK)

Emulating Output Queueing with the Central-stage Buffered Clos Packet Switching Network

Xiangjie Ma (PLA Information Engineering University, CN); Julong Lan (National Digital Switching System Engineering & Technological R&D Center, China, CN); Baisheng Zhang (PLA Information Engineering University, CN)

Matching the Speed Gap between SRAM and DRAM

Feng Wang (Hong Kong University of Science and Technology, HK)

Minimization of ACL Storage by Adding Minimal Hardware of Range Matching and Logical Gates to TCAM

Haesung Hwang (Osaka University, JP); Koji Yamamoto (Renesas Technology Corporation, JP); Shingo Ata (Osaka City University, JP); Kazunari Inoue (Renesas Technology Corporation, JP); Murata Masayuki (Osaka University, Japan, JP)

On joint sequence design for load-balanced two-stage switch architecture

Bing Hu (University of Hong Kong, HK); Kwan Yeung (University of Hong Kong, HK)

1:30 – 3:00 Session 5: Optical Packet Switch Architecture
Session Chair: Wojciech Kabacinski (Poznan University of Technology, PL)

Ultra-fast All-optical Packet-switched Routing with a Hybrid Header Address Correlation Scheme

Ming-Feng Chiang (Northumbria University, UK); Fary Ghassemlooy (Northumbria University, UK); Wai Pang Ng (Northumbria University, UK); Hoa Le Minh (University of Oxford, UK); Chao Lu (The Hong Kong Polytechnic University, HK)

Availability-aware routing in optical networks with primary-backup sharing
*Yonggang Li (University of Electronic Science and Technology of China, CN);
Kun Qiu (University of Electronic Science and Technology of China, CN);
Longjiang Li (University of Electronic Science and Technology of China, CN)*

A Construction of Shared Optical Buffer Queue with Switched Delay Lines
*Xiaoliang Wang (University of TOHOKU, JP); Xiaohong Jiang (Tohoku
University, JP)*

New Architectures for Optical Packet Switching using QD-SOAs for Multi-
Wavelength Buffering
*Kyriakos Vlachos (University of Patras, GR); Wojciech Kabacinski (Poznan
University of Technology, PL); Slawomir Weclowski (Poznan University of
Technology, PL)*

1:30 – 3:00

Session 6: Traffic Engineering Control
Session Chair: Tilman Wolf (University of Massachusetts, US)

Revealing the Optimality Gap for Traffic Engineering Algorithms
Huan Liu (Accenture Technology Labs, US)

A prototype of a dynamically reconfigurable processor based off-loading engine
for accelerating the shortest path calculation with GNU Zebra
*Sho Shimizu (Keio University, JP); Taku Kihara (Keio University, JP); Yutaka
Arakawa (Keio University, JP); Naoaki Yamanaka (Keio University, JP);
Kosuke Shiba (IPFlex, JP)*

Resource-efficient care-of address provisioning for seamless IPv6 mobility
support
*Longjiang Li (University of Electronic Science and Technology of China, CN);
Yuming Mao (SCIE, University of Electronic Science and Technology of China,
CN); Yonggang Li (University of Electronic Science and Technology of China,
CN)*

Dynamic Workload Profiling and Task Allocation in Packet Processing Systems
*Qiang Wu (University of Massachusetts, US); Tilman Wolf (University of
Massachusetts, US)*

3:00 – 3:30

Coffee Break

3:30 – 4:30

Session 7: Multicasting and Broadcasting
Session Chair: Minglu Li (Shanghai Jiao Tong University, CN)

Asynchronous SAN Switching under Multicast Traffic
*Andrea Bianco (Politecnico di Torino, IT); Luca Girauda (Politecnico di Torino,
IT); Alessandra Scicchitano (IBM Zurich, IT)*

Optimal Fault-tolerant Broadcasting in Wireless Mesh Networks
*Qin Xin (Simula Research Laboratory, NO); Yan Zhang (Simula Research
Laboratory, NO)*

Efficient Broadcasting in Interface Switching Wireless Networks
*Yunxia Feng (Shanghai Jiao Tong University, CN); Minglu Li (Shanghai Jiao
Tong University, CN)*

- 3:30 – 4:30 Session 8: Packet Scheduling Algorithm
Session Chair: Joseph Hui (Arizona State University, US)
- A Low Complexity Scheduling Algorithm for Crosspoint Buffered Switches with 100% Throughput
Yanming Shen (Polytechnic University, US); Shivendra Panwar (Polytechnic University, US); H. Jonathan Chao (Polytechnic University Brooklyn, US)
- Achieving 100% Throughput in Two-stage Switch with Feedback
Bing Hu (University of Hong Kong, HK); Kwan Yeung (University of Hong Kong, HK)
- First-Fit Scheduling for Multi-Stage Packet Switching Networks
Joseph Hui (Arizona State University, US); Lingjie Li (Arizona State University, US)
- 3:30 – 4:30 Session 9: Network Security
Session Chair: Susumu Horiguchi (TOHOKU University, JP)
- Protection mechanism for the N2R Topological Routing Algorithm
Jose Gutierrez Lopez (Aalborg University, DK)
- Multistep Attacks Extraction Using Compiler Techniques
Safaa Al-Mamory (Harbin Institute of Technology, CN); Hongli ZHANG (Harbin Institute of Technology, CN)
- Router Based Detection for Low-Rate Agents of DDoS Attack
Susumu Horiguchi (TOHOKU University, JP)
- 5:00 – 10:00 PM Social Event

May 17, 2008

- 8:00 AM Registration
- 9:00 – 12:00 Session 10: Advanced Interconnection Network
Session Chair: Stefano Secci (TELECOM ParisTech & Politecnico di Milano, IT)
- Mapping Packet Processing Applications on a Systolic Array Network Processor
Olivier Morandi (Politecnico di Torino, IT); Fulvio Rizzo (Politecnico di Torino, IT); Pierluigi Rolando (Politecnico di Torino, IT); Olof Hagsand (KTH, SE); Peter Ekdahl (Xelerated AB, SE)
- A Map-and-Route Approach for Segment Shared Protection in Multi-domain Networks
Dieu Linh Truong (Université de Montréal, CA); Brigitte Jaumard (Concordia University, CA)
- Performance Benchmark for Target Module in Fiber Channel RAID Systems
Zhihu Tan (Huazhong University of Science & Technology, CN)
- Control and Management Plane in a Multistage Software Router Architecture
Andrea Bianco (Politecnico di Torino, IT); Robert Birke (Politecnico di Torino, IT); Jorge Finochietto (Universidad Nacional de Cordoba, AR); Luca Girauda (Politecnico di Torino, IT); Fabio Marengo (Politecnico di Torino, IT); Marco Mellia (Politecnico di Torino, IT); Azeem Khan (IIT Bombay, IN); D. Manjunath (Indian Institute of Technology, Bombay, IN)
- Comparison of Quasi-Regular Composite-Star and Multi-Hop Structures for Core Networks
Stefano Secci (TELECOM ParisTech & Politecnico di Milano, IT); Jean-Louis Rougier (TELECOM ParisTech, FR); Achille Pattavina (Politecnico di Milano, IT)
- 9:00 – 12:00 Session 11: Optical Switch Design and Performance Evaluation
Session Chair: Xiaohong Jiang (Tohoku University, JP)
- An Approach to Users-Oriented On Demand Optical Grid Network Construction in Large Scale Open Optical Networks
Sugang Xu (National Institute of Information and Communications Technology, JP); Hiroaki Harai (National Institute of Information and Communications Technology, JP)
- Trading Network Management Complexity for Blocking Probability when Placing Optical Regenerators
Marcio Savasini (State University of Campinas, BR); Paolo Monti (University of Texas at Dallas, US); Marco Tacca (University of Texas at Dallas, US); Andrea Fumagalli (UTD, US); Helio Waldman (Federal University of the ABC, BR)
- Performance Evaluation of AWG-based Optical Switches with Shared Wavelength Conversion
Riccardo Zanzottera (Politecnico di Milano, IT); Achille Pattavina (Politecnico di Milano, IT)

Fast-ReRoute Extensions for Multi-Point to Multi-Point MPLS tunnels
Mohamad Chaitou (France Telecom, FR); Jean-Louis Le Roux (France Telecom R&D, FR)

Self-Routing Design of Nonblocking WDM Switches Based on Arrayed Waveguide Grating
Yusuke Fukushima (University of Tohoku, JP); Xiaohong Jiang (Tohoku University, JP); Achille Pattavina (Politecnico di Milano, IT); Susumu Horiguchi (TOHOKU University, JP)

9:00 – 12:00

Session 12: Network, Architecture Protocol, and Implementation
Session Chair: Jinfeng Dou (Ocean University of China, CN)

Distributed Storage on Networks of Linux PCs using the iSCSI Protocol
Andrea Bianco (Politecnico di Torino, IT); Marco Modesti (Politecnico di Torino, IT); Fabio Neri (Politecnico di Torino, IT); Jorge Finochietto (Universidad Nacional de Cordoba, AR)

Quick-Start and XCP on a Network Processor: Implementation Issues and Performance Evaluation
Simon Hauger (University of Stuttgart, DE); Michael Scharf (University of Stuttgart, DE); Jochen Kögel (University of Stuttgart, DE); Chawapong Suriyajan (University of Stuttgart, DE)

ALS: Aggregated Location Service for Routing in MANETs
Karim Khazaei (University fo qazvin, IR); Akbar Momeni (Takestan AZAD Univercity, IR); Sadegh Mohammadi (Previous classmate, IR)

Energy-efficient Uniform Clustering Algorithm for Wireless Sensor Networks
Zhongwen Guo (Ocean University of China, CN); Jinfeng Dou (Ocean University of China, CN)