27th

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IEEE International Performance, Computing, and Communications Conference

Renaissance Austin Hotel
Austin, Texas
December 7-9, 2008

The International Performance, Computing, and Communications Conference is the premier IEEE Conference presenting research in the performance of computer and communication systems.

For more than a quarter century, IPCCC has been a research forum for academic, industrial, and government researchers.

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Welcome Messages

General Chair

Welcome to the 27th International Performance Computing and Communications Conference (IPCCC 2008). Much of the world is in the midst of a great transformation fueled by continuing advances in computing and networking capabilities. Over the past 27 years, IPCCC has been and continues to be an ideal forum for dissemination of new research findings and the interchange of ideas, techniques, and applications among researchers in the area of computing and communication systems.

Faithful to its tradition, IPCCC 2008 will provide attendees ample opportunities for discussions, debates and exchange of information between users, providers and researchers. This year's conference will see broader participation from several major research communities including high-performance computing, computer and communications networks, and information and system security.

On behalf of the organizing committee, I am delighted to present to you a high-quality program composed of an exciting and carefully selected core technical program, four forward-looking workshops, and two inspiring keynote speeches. The first keynote speaker, Dr. Robert Bonneau, a Program Manager of the Air Force Office of Scientific Research (AFOSR), will enlighten us on the issues related to quantifying and managing the performance of complex networks. Our second keynote speaker, Dr. Lili Qiu, a distinguished researcher in the area of Internet and Wireless Networking at UT-Austin, will share with us her thoughts on modeling of wireless interference and its impact on network performance and management.

As with any project of this magnitude, many individuals contributed to the success of the symposium. A number of people worked very hard to ensure that the Conference and its proceedings continue to be stimulating, informative and delightful. We would like to thank the members of the organizing committee for their efforts. Maggie Cheng, the General Vice Chair, has been a driving force behind this conference. She is highly commended for the efforts and time she volunteered to bring this conference to a successful culmination. We also want to thank the Program Chair, Dr. Youtao Zhang, for his invaluable efforts to secure a large number of high quality submissions and put together an excellent technical program. He tirelessly engaged different members of the community in email and telephone discussions to secure an outstanding program committee, participated closely in the conference organization, drafted sections of the call for papers, and responded to questions and comments from potential authors. Darman Agrawal and Bing Wang worked very hard to organize the four workshops; Sheng Zhong, worked around the clock to make sure the conference proceedings were delivered on time; Nasr Ullah did an excellent job in local arrangement and finance; Jack Chen helped with IPCCC registration; Neil Nelson designed and maintained the IPCCC web site; Denis McGinness designed the program.

Thanks are also due to the members of the program committee who brought to the conference a wide-ranging set of perspectives, concerns and useful suggestions, and volunteered their valuable time to review and select an excellent set of papers to be presented in the conference.

Thanks are due to the diligent authors whose interest, research efforts and vision continue to give impetus to IPCCC.

Last but not least, the organizing committee of IPCCC is grateful to the IEEE Computer Society for its sponsorship of the conference. We are thankful for the Society's continued support of IPCCC.

Welcome to IPCCC'08! We hope that you will enjoy the program, the social events and the splendid sites of this beautiful city. Let the celebration begin!

With best regards,

Ty Znati
General Chair, IPCCC 2008
University of Pittsburgh

Program Chair

Welcome to the 28th IEEE Performance Computing and Communications Conference (IPCCC 2008). The Technical Program Committee is delighted with the high quality of the accepted papers for the conference and the four workshops held in conjunction with the IPCCC.

This year we received 141 submissions for the main conference from authors spread over 28 countries across the globe. Although we had an extremely tight schedule this year, most papers received three peer reviews from our technical program committee and external reviewers. After a thorough analysis of the reviews returned, we accepted 46 papers for the main conference representing a 32.6% acceptance rate. Out of the these papers, we have successfully put together 15 technical sessions that reflect state-of-the-art research activities in the computing and communication fields with focus on wireless networks, ad hoc and sensor networks, security, computer systems and computer architecture. The papers overall were of excellent quality.

We wish to thank all the contributors for the quality and success of IPCCC 2008. In particular, we thank all the members of the Technical Program Committee and the additional reviewers for doing the excellent job of reviewing the papers in an extremely short period of time. Special thanks to the General Chairs, Prof. Taieb Znati and Prof. Maggie Cheng for their guidance and support in this process, and the Workshop Co-Chairs, Prof. Dharma Agrawal and Prof. Bing Wang, for bringing together four excellent workshops. We also thank the Publication Chair, Prof. Sheng Zhong, Finance Chair, Dr. Nasr Ullah, Registration Chair, Jack Chen, Web Chairs, Neil Nelson, Ping Zhou, graphic artist Denis McGinness, and the workshop organizers.

We once again welcome you all to IPCCC 2008. We hope you enjoy the technical program and the workshops and have a great time in Austin.

Youtao Zhang
Program Chair, IPCCC 2008
University of Pittsburgh

Workshops Co-chairs

Welcome to IPCCC 2008 workshops. It has been a great pleasure to organize and oversee the organization of this year's workshops program.

This year, we have four fist-time workshops: 1st workshop on Generation C Wireless Networks, 1st workshop on Dynamic Spectrum Access and Cognitive Radio Networks, 1st workshop on Information and Data Assurance, and 1st workshop on Network Security and Privacy. These workshops attracted 74 submissions from all over the world. After a careful review process and tremendous efforts by the technical committee of each workshop, 32 papers and two invited papers were accepted into the final program. We hope you will find the papers interesting and stimulating.

We would like to thank the many people who supported this year's workshops. We wish to thank all the authors who carefully prepared their submissions and chose IPCCC workshops as the venue to share their work. We would like to thank the workshops technical chairs, Vivek Jain, Wenyuan Xu, Dave Cavalcanti, Alireza Seyedi, Anurag Gupta, Anindo Mukherjee, Guofei Gu, and Haining Wang, who put together an excellent program within a very short period of time. We would also like to thank the workshops technical committees (we have 94 TPC members for the four workshops) who contributed their precious time to read and review the papers. Last, we would like to thank IPCCC organizers whose guidance and support have helped us at various stages of the workshops.

Finally, thank you for your attendance and we hope you enjoy the program.

Dharma P. Agrawal
Workshop Co-Chair, IPCCC 2008
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IPCCC Schedule Day One - Sunday, December 7, 2008

8:00 A.M.: Registration Starts
8:15 – 8:30 Welcome Message

8:30 - 9:15: Workshops Keynote [Trinity]

Recent Trends in Wireless Networks

Dr. Dharma P. Agrawal, University of Cincinnati

Break: 9:15 - 9:30

Morning Session I: 9:30 - 10:45

GenCWiNets'08 – Session I [Trinity B]
Chair: Lakshmi Venkatraman (Robert Bosch LLC, USA)

Fuzzy Evaluation for Wireless Sensor Networks Based on Rough Set Theory
Lun Zhang (Swiss Federal Institute of Technology, Switzerland/Tongji University, China);
Yan Lu, Lan Chen (Tongji University, China)

Assessment Strategy with Markov Chain Utilized in Wireless Sensor Networks
Lun Zhang (Swiss Federal Institute of Technology, Switzerland/Tongji University, China);
Dongxiu Ou (Tongji University, China)

Discovering Resources in Tuple-Based Pervasive Systems Using Resource-Aware Routing
Saman Kolahdooz, Shahpour Rahmani, Mohsen Sharifi (Iran University of Science and Technology, Iran)

Enhanced Scanning Scheme for Delay-Constrained Fast Handoff in IEEE 802.11 WLANs
Yazan M. Allawi, Min-Gon Kim, Minho Kang (Information and Communications University, Republic of Korea)

DSA-CRN'08 – Session I (MAC) [Pecos]
Chairs: Dave Cavalcanti (Philips Research North America, USA);
Alireza Seyedi (University of Rochester, USA)

Spectrum Handoff for Cognitive Radio Networks: Reactive-Sensing or Proactive-Sensing?
Li-Chun Wang, Chung-Wei Wang
(National Chiao Tung University, Taiwan)

Asynchronous Detection and Avoidance (DAA) Protocol for Interference Mitigation in Dynamic Spectrum Access
Yu-Sheng Wang, Chun-Ting Chou
(National Taiwan University, Taiwan)

Graph Theoretic Approach to QoS-Guaranteed Spectrum Allocation in Cognitive Radio Networks
Sameer Swami, Chittabrata Ghosh, Rucha Dhekne, Dharma Agrawal, Ken Berman
(University of Cincinnati, USA)

WIDA'08 – Session I [Trinity A]
Chairs: Anurag Gupta, Anindo Mukherjee (Google Inc., USA)

Adaptive Access Control Scheme Utilizing Context Awareness in Pervasive Computing Environments
Jung Hwan Choi, Dong Hyun Kang, Hyunsu Jang, Young Ik Eom (Sungkyunkwan University, Republic of Korea)

Mitigating Evil Twin Attacks in 802.11
Kevin Bauer, Harold Gonzales, Damon McCoy (University of Colorado, USA)

On the Formal Verification of a Cluster Based Key Management Protocol for Wireless Sensor Networks
Reiner Dojen, Fan Zhang, Tom Coffey (University of Limerick, Ireland)

Towards Mathematically Modeling the Anonymity Reasoning Ability of an Adversary
Douglas Kelly (Air Force Institute of Technology, USA)

Break: 10:45 - 11:00

Morning Session II: 11:00 - 12:15

GenCWiNets'08 – Session II [Trinity B]
Chair: Wenyuan Xu (University of South Carolina, USA)

Traffic Differentiating Queue For Enhancing AODV Performance in Real-Time Interactive Applications
Allaa R. Hilal, Amal El-Nahas (German University in Cairo, Egypt);
Ahmed Bashandy, Samir Shahin (Cairo University, Egypt)

Automatic Generation of User's Profiles for Location-Based Adaptation of Multimedia Documents
Fayçal M'hamed Bouyakoub, Abdelkader Belkhir (USTHB University, Algeria)

RFID Reader Anti-Collision Algorithm Using a Server and Mobile Readers Based on Conflict-Free Multiple Access
Jun-Bong Eom, Tae-Jin Lee
(Sungkyunkwan University, Republic of Korea)

DSA-CRN'08 – Session II (PHY) [Pecos]
Chairs: Dave Cavalcanti (Philips Research North America, USA);
Alireza Seyedi (University of Rochester, USA)

Universal Classifier Synchronizer Demodulator
Qinqin Chen, Ying Wang (Virginia Polytechnic Institute and State University, USA);
Charles Bostian (Virginia Tech, USA)

Minimizing Energy Consumption Using Cognitive Radio
An He, Xuetao Chen, Jeffrey Reed, Bill Tranter, Kyung Bae (Virginia Tech, USA);
Srikathyayani Srikanteswara, Masoud Sajadieh (Intel Corporation, USA)

WIDA'08 – Session II [Trinity A]
Chairs: Anurag Gupta, Anindo Mukherjee (Google Inc., USA)

A Model to Use Denied Internet Traffic to Indirectly Discover Internal Network Security Problems
Chet Langin, Hongbo Zhou, Shahram Rahimi (Southern Illinois University Carbondale, USA)

Distributed Detection of Replica Cluster Attacks in Sensor Networks Using Sequential Analysis
Jun-Won Ho (The University of Texas at Arlington, USA)

The Scalability of Secure Lock
Cory Antosh, Barry Mullins
(Air Force Institute of Technology, USA)

Noise-Resistant Payload Anomaly Detection for Network Intrusion Detection Systems
Sun-il Kim (University of Alabama in Huntsville, USA);
Nnamdi Nwanze (State University of New York at Binghamton, USA)

Lunch: 12:15 - 2:00 [San Saba]

Afternoon Session I: 2:00 - 3:15

GenCWiNets'08 – Session III [Trinity B]
Chair: Vivek Jain (Robert Bosch LLC, USA)

Throughput Enhancement of Macro and Femto Networks By Frequency Reuse and Pilot Sensing
Tae-Hwan Kim, Tae-Jin Lee
(Sungkyunkwan University, Republic of Korea)

Tuning Data Reporting and Sensing for Continuous Monitoring in Wireless Sensor Networks
Teek P. SharmaIndian, Ramesh C. Joshi, Manoj Misra
(Indian Institute of Technology, Roorkee, India)

Exploring Load Balancing in Heterogeneous Networks by Rate Distribution
Kuheli Louha, Jung Hyun Jun, Dharma P. Agrawal (University of Cincinnati, USA)

NSP'08 – Session I (Covert Channel and Proxy-Based Security) [Trinity A]

Chairs: Guofei Gu (Texas A&M University, USA);
Haining Wang (College of William and Mary, USA)

Practical Covert Channel Implementation Through a Timed Mix-Firewall
Richard Newman (University of Florida, USA);
Ira Moskowitz (Naval Research Lab., USA)

Masquerading a Wired Covert Channel Into a Wireless-Like Channel
Mina Guirguis, Jason Valdez (Texas State University, USA)

A Proxy Agent for Small Network-Enabled Devices
HongQian Karen Lu, Asad Ali (Gemalto, Inc)

Break: 3:15 - 3:30

Afternoon Session II: 3:30 - 4:45

The IEEE Technical Committee on Simulation (TCSIM) is sponsoring best paper awards for the IPCCC workshops. Each best paper selected will receive a $500 award from TCSIM.

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NSP'08 – Session II (Sensor and Wireless Network Security) [Trinity A]
Chairs: Guofei Gu (Texas A&M University, USA);
Haining Wang (College of William and Mary, USA)

Support for Security and Privacy in SenSearch
Jyh-How uang, John Black, Shivakant Mishra (University of Colorado, USA)

Proxy Aided Key Pre-Distribution Schemes for Sensor Networks
Mahalingam Ramkumar (Mississippi State University, USA)

Subjective Audio Quality Over Secure IEEE 802.11 Wireless Local Area Networks
Benjamin Ramsey, Barry Mullins (Air Force Institute of Technology, USA)

Activity-Based Security Scheme for Ubiquitous Environments
Le Xuan Hung (Kyung Hee University, Republic of Korea)

IPCCC Schedule Day Two - Monday, December 8, 2008

8:00 A.M.: Registration Starts
8:45 - 9:00 Welcome Message

9:00 - 10:00: KEYNOTE I [Trinity]

Complex Networks

Dr. Robert Bonneau, Air Force Office of Scientific Research

Break: 10:00 - 10:30

Session 1: 10:30 – 12:00

Session 1A: Wireless Sensor Networks I [Trinity A]
Chair: Miguel Jimeno (University of South Florida, USA)

TIME: A Temporal Based Index Management Algorithm for Event Query in Sensor Networks
Guilin Li, and Jianzhong Li (Harbin Institute of Technology, China);
Yingshu Li (Georgia State University, USA)

Divisible Load Scheduling in Wireless Sensor Networks with Information Utility
Kijeung Choi (Stony Brook University, USA);
Thomas G. Robertazzi (University at Stony Brook, USA)

Design and Evaluation of Localization Protocols and Algorithms in Wireless Sensor Networks Using UWB
Di Wu (Hunan University, USA);
Lichun Bao (University of California, Irvine, USA)

Session 1B: Storage [Trinity B]
Chair: Xiao Qin (Auburn University, USA)

Distributed Energy-Efficient Scheduling for Data-Intensive Applications with Deadline Constraints on Data Grids
Cong Liu (The University of North Carolina at Chapel Hill, USA)

Progressive Parity-Based Hardening of Data Stores
Ahmed Amer (University of Pittsburgh, USA);
Jehan-Francois Paris (University of Houston, USA);
Darrell Long (University of California at Santa Cruz, USA);
Thomas Schwarz (Santa Clara University, USA)

An Adaptive Cache Management Using Dual LRU Stacks to Improve Buffer Cache Performance
Shenggang Wan, Cao Qiang (Huazhong University of Science and Technology, China);
Xubin He (Tennessee Technological University, USA)

Session 1C: System Security [San Saba]
Chair: Kuai Xu (Arizona State University, USA)

Understanding Divide-Conquer-Scanning Worms
Yubin Li, Zesheng Chen (Florida International University, USA);
Chao Chen (Indiana University / Purdue University, Fort Wayne, USA)

Detection of Worm Propagation Engines in the System Call Domain using Colored Petri Nets
Arnur Tokhtabayev, Andrey Dolgikh (Binghamton University, USA)

A Highly Available Transparent Linux Cluster Security Model
Visham Ramsurrun, Sunjiv Soyjaudah (University of Mauritius, Mauritius)

Lunch: 12:00 – 1:30 [Pecos]

Session 2: 1:30 – 3:00

Session 2A: Wireless Sensor Networks II [Trinity A]
Chair: Yingshu Li (Georgia State University, USA)

Increasing Lifetime of Wireless Sensor Network Using Controllable Mobile Cluster Heads
Torsha Banerjee, Dharma Agrawal (University of Cincinnati, USA)

TSS: An Energy Efficient Communication Scheme for Low Power Wireless Networks
Rabindranath Ghosh (St. Thomas' College, Kolkata, India);
Koushik Sinha (Honeywell Technology Solutions Lab, India);
Bhabani Sinha (Indian Statistical Institute, India)

Coding-Aware Multi-Path Routing in Multi-Hop Wireless Networks
Song Han, Zifei Zhong, Aloysius Mok (University of Texas, Austin, USA);
Hongxing Li, Guihai Chen (Nanjing University, China);
Edward Chan (City University of Hong Kong, Hong Kong)

Session 2B: Internet Computing [Trinity B]
Chair: Ahmed Amer (University of Pittsburgh, USA)

A Network Connection Proxy to Enable Hosts to Sleep and Save Energy
Miguel Jimeno, Ken Christensen (University of South Florida, USA);
Bruce Nordman (Lawrence Berkeley National Laboratory, USA)

Cooperative Monitoring for Internet Data Centers
Kuai Xu, Feng Wang (Arizona State University, USA)

A Transient Overload Generator for Web Servers
Paulo Farah (Faculdade Atual da Amazônia, Brazil);
Cristina Murta (Federal Center for Technological Education, Brazil)

Session 2C: Application Layer and Network Management I [San Saba]
Chair: Abhishek Jaiantilal (University of Colorado, USA)

An Evaluation of Java RMI/JavaSpaces and Ruby DRb/Rinda
Abhishek Jaiantilal, Yifei Jiang, Shivakant Mishra (University of Colorado, USA)

Performance Models for the Instance Pooling Mechanism of the JBoss Application Server
Fábio Souza, Roberto Arteiro, Nelson Rosa, Paulo Maciel (Universidade Federal de Pernambuco, Brazil)

Massively Parallel Network Coding on GPUs
Xiaowen Chu, Kaiyong Zhao (Hong Kong Baptist University, Hong Kong);
Mea Wang (University of Calgary, Canada)

Break: 3:00 – 3:30

Session 3: 3:30 – 5:00

Session 3A: Wireless Ad Hoc/Mesh Networks [Trinity A]
Chair: Yunsi Fei (University of Connecticut, USA)

Delay and Capacity Optimization in Multi-Radio Multi-Channel Wireless Mesh Networks
Weihuang Fu (University of Cincinnati, USA)

Location Authentication Methods for Network Access Control
Lichun Bao (University of California, Irvine, USA)

Neighborhood Route Diffusion for Packet Salvaging in Networks with High Mobility
Muhannad Quwaider, Jayanthi Rao, Subir Biswas (Michigan State University, USA)

Session 3B: Effective and SECURE Routing [Trinity B]
Chair: Fei Li (George Mason University, USA)

Simple and Effective Adaptive Routing Algorithms in Multi-Layer Wormhole Networks
Kyung Su, Ki Hwan Yum (University of Texas at San Antonio, USA)

Towards Green Routers: Depth-Bounded Multi-Way Pipelining for Power-Efficient IP Lookup
Weirong Jiang, Viktor Prasanna (University of Southern California, USA)

KAEF: An En-Route Scheme of Filtering False Data in Wireless Sensor Networks
Ting Yuan, Shiyong Zhang, Yiping Zhong, Jianqing Ma (Fudan University, China)

IPCCC Reception

5:30 - 7:30 P.M. [Pecos]

IPCCC Schedule Day Three - Tuesday, December 9, 2008

8:00 A.M.: Registration Starts

9:00 - 10:00: KEYNOTE II [Trinity]

Interference-Aware Wireless Network Management

Prof. Lili Qiu, University of Texas at Austin

Break: 10:00 - 10:30

Session 4: 10:30 – 12:00

Session 4A: P2P and Distributed Networks [Trinity A]
Chair: Yi Luo (University of Kentucky, USA)

Analysis of Peer-to-Peer Traffic Using a Behavioral Method Based on Entropy
João Gomes (University of Beira Interior, Department of Computer Science, Portugal); Pedro Inácio, Mario Freire, Manuela Pereira (University of Beira Interior, Portugal); Paulo Monteiro (Universidade de Aveiro, Portugal)

A New Trust Framework Based on Reputation for Unstructured P2P Networks
Tian Chunqi (Tongji University, China)

Theoretical and Experimental Evaluation of Communication-Induced Checkpointing Protocols in F_E Family
Yi Luo, D. Manivannan (University of Kentucky, USA)

Session 4B: Application Layer and Network Management II [Trinity B]
Chair: Mea Wang (University of Calgary, Canada)

Laboratory Measurements and Verification of PSI/SI Transmission in DVB-H Systems
Jani Väre, Harri Pekonen (Nokia, Finland); Jyrki Alamaunu (Senior Research Scientist, Finland)

A Group-Aware Service Discovery Scheme in Ubiquitous Environment Using Service Assignment
Hankyul You (Information and Communications University, Republic of Korea)

Competitive Analysis of Fairness in FIFO Buffer Management
Fei Li (George Mason University, USA)

Lunch 12:00 - 1:30 [Pecos]

Session 5 1:30 - 3:00

Session 5A: Wireless Sensor Networks III [Trinity A]
Chair: Amar Rasheed (Texas A&M University, USA)

QELAR: A Q-Learning-Based Energy-Efficient and Lifetime-Aware Routing Protocol for Underwater Sensor Networks
Tiansi Hu, Yunsi Fei (University of Connecticut, USA)

UD-GEM: A Multi-Path Routing Algorithm for Wireless Sensor Networks
Qiang Ye (University of Prince Edward Island, Canada)

An Efficient Key Distribution Scheme for Establishing Pairwise Keys with a Mobile Sink in Distributed Sensor Networks
Amar Rasheed, Rabi Mahapatra (Texas A&M University, USA)

Session 5B: Application Layer and Network Management III [Trinity B]
Chair: Fulu Li (Massachusetts Institute of Technology, USA)

Analysis on Probabilistic View Coverage for Image Sensing -- A Geometric Approach
Fulu Li (Massachusetts Institute of Technology, USA)

Stability Analysis for Communication of Voice and Data Terminals with Packet Reservation Multiple Access Protocol
Amirali Sharifi (Sterne Kessler Goldstein and Fox P.L.L.C., USA)

Lightweight and Mutual Authentication Scheme for Mobile Radio Frequency Identification (mRFID) Systems
Muhammad Ikram, Md. Aminul Haque Chowdhury, Hassen Redwan, Ki-Hyung Kim (Ajou University, Republic of Korea)

Break 3:00 - 3:30

Session 6 3:30 - 5 :00

Session 6A: Potpourri [Trinity A]
Chair: Hao Wen (Tsinghua University, China)

Directional Double Metric Routing in Wireless Mesh Network
Dapeng Wang, Shoubao Yang, Yun Hu, Peng Zhang (University of Science and Technology of China, China)

Joint Adaptive Redundancy and Partial Retransmission for Reliable Transmission in Wireless Sensor Networks
Hao Wen, Hongkun Yang (Tsinghua University, China)

HSP2P: A High Scalability P2P Simulation Framework with Measured Realistic Network Layer Support
Hao Gong, Guangyu Shi, Youshui Long (Huawei Technologies Co., Ltd, China)

Session 6B: Transport Layer and Optical Burst Switches [Trinity B]
Chair: Ritesh Kumar (University of North Carolina at Chapel Hill, USA)

Towards a Queue Sensitive Transport Protocol
Ritesh Kumar, Jasleen Kaur (University of North Carolina at Chapel Hill, USA)

Modeling and Performance Evaluation of Optical Burst Switched Ring Networks with Efficient Adaptive Routing
Xingbo Gao, Mostafa Bassiouni (University of Central Florida, USA)

QoS Behavior of Optical Burst Switching Under Multimedia Traffic: An Analytical Approach
Aresh Dadlani, Ahmad Khonsari (University of Tehran, Iran); Ali Rajabi (Department of ECE, University of Tehran, Iran); Mohammadreza Aghajani (Sharif University of Technology, Iran)

Keynote Speakers

IPCCC Day One - Workshops Keynote, Sunday, December 7, 2008: 8:30 A.M. - 9:15 A.M

"Recent Trends in Wireless Networks"

Dr. Dharma P. Agrawal, Professor of Computer Science, University of Cincinnati, IEEE Fellow, 1987, ACM Fellow, 1998

Speaker Bio: Dr. Agrawal is a Professor of Computer Science at the University of Cincinnati, Ohio. He has held visiting appointments at Carnegie Melon University, AIRMICS, Atlanta, GA, and the AT&T Advanced Communications Laboratory, Whippany, NJ, and has also served as a consultant to the General Dynamics Land Systems Division, Battelle, Inc., and the U.S. Army. He has published papers in the areas of Parallel System Architecture, Routing, Parallelism Detection and Scheduling, Real-Time Distributed System Reliability, C-MOS Circuit Modeling, and Computer Arithmetic. His recent research interests include resource allocation and security in mesh networks, efficient query processing and security in sensor networks, and heterogeneous wireless networks. He has five approved patents and eighteen patent filings in the area of wireless cellular networks. He is co-author of the widely published text - *Wireless and Mobile Computing*, and recently co-authored a second book - *Ad hoc and Sensor Networks*.

IPCCC Day Two - Keynote I, Monday, December 8, 2008: 9:00 A.M. - 10:00 A.M

"Complex Networks"

Dr. Bonneau. Program Manager of the Air Force Office of Scientific Research

Abstract: The talk will overview complex network goals that address issues in quantifying and managing the performance of heterogeneous dynamic networks. Information topological methods along with the models and dynamics will be presented. The talk also covers estimation and ergodic theory in networks to reduce point to point overhead of protocols by only retransmitting information that can not be estimated from geometric information properties. The theory and design of network protocols, policy, and management is outlined along with a few examples of Air Force networking challenges.

Speaker Bio: Dr. Bonneau is Program Manager of the Air Force Office of Scientific Research, and has established programs in Networking and Communications in the Mathematics, Information, and Biological Sciences Division. Previously, Dr. Bonneau was a senior research scientist at the Air Force Research Laboratory, Information Directorate in networking, communications, sensing, and computing, a Program Manager at the Defense Advanced Research Projects Agency (DARPA) in communications. He has held academic positions in communications and sensing at Rensselaer Polytechnic Institute and Columbia University. Dr Bonneau has a Ph.D. in electrical engineering from Columbia University, and a Masters and Bachelors in electrical engineering from Cornell University. Dr. Bonneau is a senior member of IEEE and has over 70 journal and conference papers, 1 book co-authorship, contributed to 2 book chapters, and holds 3 patents.

IPCCC Day Three - Keynote II, Tuesday, December 9, 2008: 9:00 A.M. - 10:00 A.M.

"Interference-Aware Wireless Network Management"

Dr. Lili Qiu, Assistant Professor at the University of Texas

Abstract: Wireless interference has significant impact on wireless network performance. However, accurately quantifying its performance impact remained a fundamental challenge. As a result, optimizing wireless network performance was hard. In this talk, I will first present our conflict-graph-based wireless interference model, and apply it to computing optimal throughput for a given wireless network and workload. Then I will describe our recent works on modeling IEEE 802.11-based network performance and designing algorithms that build on this model to optimize the wireless network for fairness and throughput. A unique feature of our approaches is that the performance (e.g., total throughput and fairness) optimized by our approaches is realizable in real wireless networks

Speaker Bio: Lili Qiu is an Assistant Professor at the University of Texas at Austin. She received MS and Ph.D. degrees in computer science from Cornell University in 1999 and 2001, respectively. Before joining UT in 2005, she spent four years as a researcher at Microsoft Research, where she led and participated in various internet and wireless networking research projects. She is a leader in wireless network management. She received a NSF career award in 2006. She has published over 50 papers in leading networking conferences and journals, such as SIGCOMM, MOBICOM, SIGMETRICS, INFOCOM, ICNP, and ACM/IEEE Transactions on Networking. She holds 7 US patents. She serves as an associate editor-in-chief for Mobile Computing and Communications Review (MC2R), and as a program committee member of many networking conferences, including SIGCOMM, MOBICOM, INFOCOM, ICDCS, SECON, etc.

Workshops In Conjunction With IPCCC 2008

The International Performance, Computing, and Communications Conference (IPCCC 2008) is a premiere IEEE conference presenting research in the performance of computer and communication systems. For more than a quarter century, IPCCC has been a research forum for academic, industrial, and government researchers.

Four workshops will be held in conjunction IPCCC 2008, as follows:

GenCWiNets'08
The 1st IEEE International Workshop on Generation C Wireless Networks
General Chair: Lakshmi Venkatraman (Robert Bosch LLC, USA); Lakshmi.Venkatraman@us.bosch.com
Workshop Chairs:
Vivek Jain, (Robert Bosch LLC, USA); Vivek.Jain@us.bosch.com
Wenyuan Xu, (University of South Carolina, USA); wyxu@cse.sc.edu

DSA-CRN'08
The 1st IEEE International Workshop on Dynamic Spectrum Access and Cognitive Radio Networks
Workshop Chairs:
Dave Cavalcanti (Philips Research North America, USA); dave.cavalcanti@philips.com
Alireza Seyedi (University of Rochester, USA); alireza@ece.rochester.edu

WIDA'08
The 1st IEEE International Workshop on Information and Data Assurance
Workshop Chairs:
Anurag Gupta (Google Inc, USA); anurag.gupta@ieee.org
Anindo Mukherjee (Google Inc, USA); anindom@gmail.com

NSP'08
The 1st IEEE International Workshop on Network Security and Privacy
Workshop Chairs:
Guofei Gu (Texas A&M University, USA); guofei@cs.tamu.edu
Haining Wang (College of William and Mary, USA); hnw@cs.wm.edu

Conference Site

Renaissance Austin Hotel Information
9721 Arboretum Boulevard
Austin, Texas 78759 USA

Toll-free: 1-800-468-3571
More details about the hotel can be found at the IPCCC web site: http://www.ipccc.org/ipccc2008/main.php?page=13

Preliminary Call for Papers and Participation

28th IEEE International Performance, Computing, and Communications Conference

2009
Location TBD

For more information on participation in the 28th IPCCC, please go to: www.ipccc.org

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We encourage submission of high-quality papers reporting original work in both theoretical and experimental research areas. Topics of interest include, but are not limited to, the following:

- Mobile and Networked Applications
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- Sensor Network Protocols and Applications
- Performance Evaluation
- Performance of Web Servers
- Performance of Workloads
- High-Performance Computing
- Power-Aware Design
- Grid Computing
- Embedded Systems
- Storage Systems
- Network Protocols
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Questions regarding the policies and procedures can be sent to the IEEE IPCCC 2009 General Chairs, listed at www.ipccc.org.

In addition, proposals for panel sessions and workshops are welcome. Please contact the General Chair, listed at www.ipccc.org, for details.

- Panel sessions: on topics of timely importance.
- Workshops: on relevant topics, half or full-day.

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