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EXECUTIVE COMMITTEE

Ad Hoc Sensor and Mesh Networking Symposium
Nirwan Ansari, NJIT
Azzedine Boukerche, University of Ottawa
Raouf Boutaba University of Waterloo
Nidal Nasser, University of Guelph

Communications Theory Symposium
Hesham El Gamal, Ohio State University
Tie Liu, Texas A&M University

Communications Quality of Service, Reliability, and Performance Modeling Symposium
Fabrizio Granelli, University of Trento
Toshinori Tsuboi, Tokyo University of Technology

Communications Software and Services Symposium
Bruno Crispo, Universita di Trento
Pascal Lorenz, University of Haute Alsace
Abdelhamid Mellouk, University Paris XII
Nikola Rozic, University of Split
Qian Zhang, Hong Kong University of Science and Technology

Computer and Communications Network Security Symposium
Abderrahim Benslimane, University of Avignon
Jiankun Hu, RMIT University
Peter Mueller, IBM Zurich Research Laboratory

Optical Networks and Systems Symposium
Rudra Dutta, North Carolina State University
Tarek El-Bawab, Jackson State University
Fabio Neri, Politecnico di Torino

Wireless Communications Symposium
Luc Deneire, University of Nice
Dennis Goeckel, University of Massachusetts
Brian Hughes, North Carolina State University
Ranjan Mallik, Indian Institute of Technology - Delhi
Zhengdao Wang, Iowa State University
Xi Zhang, Texas A&M University

Wireless Networking Symposium
Murat Alanyali, Boston University
Jing Deng, University of North Carolina
Jelena Masic, University of Manitoba
Weihua Zhuang, University of Waterloo

Other Selected Areas in Communications
Mario Marchese, DIST- University of Genoa
Henry Pfister, Texas A&M University
Andrea Tonello, University of Udine
Bruce Wilson, Hitachi
Hunggang Zhang, Zhejiang University
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IEEE GLOBECOM 2008 PATRONS

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Of the IEEE GLOBECOM 2008 Organizing Committee, we welcome you to the IEEE Global Communications Conference, Exhibition and Industry Forum (GLOBECOM) in New Orleans, USA! As one of the two major IEEE Communications Society Conferences held annually, IEEE GLOBECOM 2008 is a major event in our field. With the hard work and dedication of the IEEE GLOBECOM committees, we have assembled an excellent program for you.

Regular papers presented at IEEE GLOBECOM this year are organized into 11 Symposia using the format established by the IEEE GLOBECOM/ICC Technical Committee and were fully reviewed using a GITC-approved process. We hope this will further improve the quality of the program.

IEEE GLOBECOM 2008 received submissions from 64 countries: 2854 symposium paper submissions and an additional 12 submissions for other technical events. We accepted 1051 symposium submissions, for an overall acceptance rate of 36.8%. Each paper was carefully peer-reviewed by at least three of the 4944 reviewers working with more than 1000 TPC members. These papers will be presented in blocks of 3 daily sessions with 17 parallel oral sessions and 3 poster sessions in each block, for a total of 153 oral sessions and 27 poster sessions over three days.

We are particularly excited to also have a Special Session on the History of Telecommunications. Organized by Professors Jacob Bial-Schem and Mischa Schwartz, we think this will be a particularly interesting and worthwhile addition to the conference technical program. This session will start with an invited lecture on The History of OFDM by Dr. Steve Weinstein, and culminate with a panel discussion on The Invention of Radio. We engineers too often forget our history and the men and women who struggled and worked to create our modern world, and it is sometimes worthwhile to pause and reflect upon our journey to this modern world we often take for granted.

In addition to the regular and special paper and poster sessions, we have a full schedule of excellent Tutorials and Workshops on Sunday and Thursday. A total of 64 Tutorial and 14 Workshop proposals were submitted and the Chairs of these events have selected 19 tutorials and 9 workshops for you. We also have an exciting program of 18 Design and Developers Forum sessions on Monday through Wednesday, oriented toward practicing engineers in industry. In addition, we are co-located with the 2008 World Telecommunications Congress (WTC) and the 2008 IEEE Enterprise Networking Conference (EntNet), providing an even more varied and interesting set of choices and opportunities. We also encourage you to visit the exhibitions in the Expo area and see what’s new and exciting. With all of these opportunities, we hope your only problem will be to decide how to fit it all into five days!

Such a comprehensive, high-quality program is not possible without the hard work and devotion of a very large number of individuals. We extend our sincere thanks and appreciation to all TP volunteers and would like to recognize, particularly, the exceptional work rendered by the IEEE GC’08 Symposium co-chairs, Tutorial co-chairs, Workshops chair, and D&D co-chairs.

Yet with all of the interesting technical opportunities available, as New Orleanians we hope you will take a bit of time to explore our City. We are likewise proud of our many world-famous restaurants and invite you to sample that special blend of Creole, Cajun, and Southern Cooking that characterizes New Orleans Cuisine. Or perhaps you will wish to enjoy jazz at one of our many clubs, take a boat ride down the Mississippi River, ride a streetcar along St. Charles Avenue, or visit our world-famous Zoo, Aquarium, and new Insectarium.

However you spend your time here, we hope you find it memorable and enjoyable and that you will, as we say here in New Orleans, “Laissez Les Bon Temps Roulez” … “Let the Good Times Roll”!
## PROGRAM AT A GLANCE

### Sunday, 30 November 2008
- **07:00 – 17:00** REGISTRATION
- **09:00 – 12:30** Half Day Tutorials & Workshops
- **09:00 – 17:30** Full Day Workshops
- **12:30 – 14:00** LUNCH BREAK (on your own)
- **14:00 – 17:30** Half Day Tutorials & Workshops

### Monday, 1 December 2008
- **07:00 – 18:30** REGISTRATION
- **08:00 – 09:30** Keynote Presentation
- **09:30 – 10:00** COFFEE BREAK
- **10:00 – 12:00** D&D Sessions, Symposia Technical Oral and Poster Sessions, WTC Sessions
- **12:10 – 13:40** Awards Luncheon
- **13:50 – 15:30** D&D Sessions, Symposia Technical Oral and Poster Sessions, WTC Sessions
- **15:30 – 16:00** COFFEE BREAK
- **16:00 – 18:00** D&D Sessions, Symposia Technical Oral and Poster Sessions, WTC Sessions
- **19:00 – 21:30** Exhibit Opening & Welcome Reception

### Tuesday, 2 December 2008
- **07:00 – 17:00** REGISTRATION
- **08:00 – 09:30** Keynote Presentation
- **09:30 – 10:00** COMMUNICATIONS EXPO
- **09:30 – 10:00** COFFEE BREAK in the EXPO*
- **10:00 – 12:00** D&D Sessions, Symposia Technical Oral and Poster Sessions, WTC Sessions
- **12:00 – 13:30** LUNCH BREAK (on your own)
- **13:30 – 15:30** D&D Sessions, Symposia Technical Oral and Poster Sessions, WTC Sessions
- **15:30 – 16:00** COFFEE BREAK in the EXPO*
- **16:00 – 18:00** D&D Sessions, Technical Oral and Poster Sessions, Panel Session, WTC Sessions
- **19:00 – 21:00** Banquet

### Wednesday, 3 December 2008
- **07:00 – 17:00** REGISTRATION
- **08:00 – 09:30** Keynote Presentation
- **09:30 – 10:00** COMMUNICATIONS EXPO
- **09:30 – 10:00** COFFEE BREAK in the EXPO*
- **10:00 – 12:00** D&D Sessions, EntNet Sessions, Technical Oral and Poster Sessions
- **12:00 – 13:30** LUNCH BREAK (on your own)
- **15:30 – 16:00** COFFEE BREAK in the EXPO*
- **16:00 – 18:00** D&D Sessions, EntNet Sessions, Technical Oral and Poster Sessions

### Thursday, 4 December 2008
- **07:00 – 17:00** REGISTRATION
- **09:00 – 12:30** Half Day Tutorials
- **09:00 – 17:30** Full Day Workshops
- **12:30 – 14:00** LUNCH BREAK (on your own)
- **14:00 – 17:30** Half Day Tutorials & Workshops

*Win prizes during the coffee breaks in the Hilton Exhibition Center on the Second Level. Must be present to win.*
Kaoru Yano
President (Representative Director)
NEC Corporation

Kaoru Yano was appointed President of NEC Corporation effective April 1, 2006 after serving as the Senior Executive Vice President. During his tenure as Senior Executive Vice President, Yano’s responsibilities included company-wide management and R&D, and held a key position in driving the technological advancement of the NEC group.

Yano joined NEC in 1966. He spent the first two decades in the development of communications equipment, and was then assigned to NEC America, where he led the development and sales team of communications business for the North American market. He has since then held key positions mainly in the network infrastructure business for both Japanese and global markets, and has been instrumental in re-inventing the business to respond to the rapid change in the marketplace brought on by the Internet and shift to IP technologies.

Throughout his career, Yano has focused on driving innovation through advanced technologies and building strong relationships with a diverse field of customers including telecommunications carriers, public sectors and enterprises worldwide.

Yano has resided in the US on three separate occasions, one of which is at the Graduate School of Stanford University where he received a master’s degree in Science in Electronics Engineering and is known for his broad international perspectives.

Richard J. Lynch
Executive Vice President and Chief Technology Officer
Verizon Communications

Richard J. Lynch is executive vice president and chief technology officer for Verizon Communications. In this role, he is responsible for technology direction and network planning for all the Verizon business units.

Prior to assuming his current position in July 2007, Lynch had been the executive vice president and chief technical officer for Verizon Wireless since its formation in 2000, and before that, had held the same position at Bell Atlantic Mobile since 1990. In those positions he was responsible for network technology selection and planning as well as network operations. Under Lynch, the Verizon Wireless network attained the distinction of quality and reliability which has formed the basis for the very well known “Can you hear me now?” advertising campaign.

Lynch has been at the forefront of wireless data solutions, starting with Cellular Digital Packet Data (CDPD) in 1995 when he led Bell Atlantic Mobile’s build of one of the largest CDPD networks in the country. In 2004, Lynch again led the industry with the decision to widely deploy EV-DO, in the first true wireless broadband service widely provided to the public in the US. Lynch was also responsible for the decision to deploy CDMA (Code Division Multiple Access), which still remains the basis for the Verizon Wireless high-quality voice network. Building on these and other key technology decisions, Lynch has supported the introduction of key innovative products and services into the marketplace.

Lynch is a Fellow of the Institute of Electrical and Electronic Engineers (IEEE). He has served on the executive board of the CDMA Development Group (CDG) and as a member of the Federal Communications Commission Technical Advisory Committee. For his leadership in the early years of wireless data, Lynch was honored with the President’s Award by the Cellular Telecommunications and Internet Association (CTIA). He has earned patents for advances in the area of wireless technology. He is a frequent guest lecturer in academia and industry on technology and its business implications.

Lynch began his career in 1972 with New England Telephone and has held a variety of positions in planning, operations, and engineering there and in Bell of Pennsylvania.

Lynch is a graduate of Lowell Technological Institute (now University of Massachusetts) where he received bachelor’s and master’s degrees in electrical engineering. He has also completed post graduate work at the Wharton School of the University of Pennsylvania and the Johnson School of Management at Cornell University.
Tuesday, 2 December 2008 • 08:00 – 09:30 • Location: Grand Ballroom C & D/First Level

John Donovan
Chief Technology Officer
AT&T

Mr. Donovan is chief technology officer for AT&T. In this role, he oversees the company’s global technology direction and innovation road map, including product development, network and engineering operations, AT&T Labs and the security and intellectual property organizations. Donovan previously was executive vice president of product, sales, marketing and operations at Verisign Inc., a technology company that provides Internet infrastructure services. At VeriSign, Donovan was responsible for leading VeriSign’s global sales organization, driving the expansion of broad solutions offerings, and integrating a global professional services capability. Before that, he was chairman and CEO of inCode Telecom Group Inc., where he helped shape strategic direction and positioning for wireless network operators around the globe. Prior, Donovan was a partner with Deloitte Consulting, where he was the Americas Industry Practice director for telecom. He has authored two books, The Value Enterprise, published in January 1998, and Value Creating Growth, published in 1999. Donovan received a B.S.E.E. from the University of Notre Dame and earned an M.B.A. in finance from the University of Minnesota.

Wednesday, 3 December 2008 • 08:00 – 09:30 • Location: Grand Ballroom C & D/First Level

Dr. Flavio Bonomi, PhD
Head of Cisco Research / Cisco Distinguished Engineer
Cisco Systems

Dr. Flavio Bonomi, PhD, is a Cisco Distinguished Engineer who is currently leading Cisco Research. He has been working at the boundary between networking research and development since 1985. Flavio brings his unique talents of product development and forward looking research work to Cisco Research.

Dr. Bonomi received an EE Degree from Pavia University, Italy, and received his PhD in EE from Cornell University. He enjoyed 10 years at AT&T Bell Laboratories working on networking related technologies. Dr. Bonomi moved to the Silicon Valley in 1995, working with two startup companies. In 1999, Flavio joined Cisco as a Senior Architect for Cisco high end routers first, and later for Cisco Data Center products. He became a Cisco Distinguished Engineer in 2004. In 2007, he took over managing Cisco’s Research activities.

Dr. Bonomi has published more than 40 papers and was awarded more than twenty patents. He was a 3 time winner of the highly prestigious internal Cisco Pioneer Award.

Wednesday, 3 December 2008 • 08:00 – 09:30 • Location: Grand Ballroom C & D/First Level

Pankaj Asundi
Vice President Media and Content
Ericsson Inc.

Pankaj Asundi, who joined Ericsson in 2000, has over 20 years of systems and technology experience within the telecommunications industry. He is currently responsible for developing and managing new business and multimedia solutions as they relate to content and media companies.

Prior to this role, Pankaj was part of Ericsson’s Strategy and Network group and was responsible for developing Ericsson’s North America and Global multimedia strategy. Other roles at Ericsson include the CTO for Ericsson’s North America Enterprise business and Strategic Marketing towards Ericsson key customers.

Before joining Ericsson, Pankaj was a Software Development Manager for First Consulting Group. He holds a Masters of Science in Industrial Engineering from University of Oklahoma.
Monday, 1 December 2008 • 10:00 – 12:00
Location: Magnolia/Third Level

DD01M1: In Building Wireless
Presenter: Leo Holzenthal Jr., University of New Orleans, USA
Ahmed Himny, PhD, Andrew Wireless Solutions, LLC, USA
Ali Nemati, Dallas Fort Worth International Airport, USA
The distribution of wireless telephony and data signals within buildings and structures has become a large industry in the wireless industry. This session will begin with a presentation of the signals and spectrum that is desired, and the technologies used to build these systems. As an example of a project, a very large scale, neutral host type, fiber optic based distributed antenna system was conceived to provide wireless telephone and radio signals to subscriber units within the confines of a large international airport.

Monday, 1 December 2008 • 10:00 – 12:00
Location: Jasperwood/Third Level

DD02M1: Wireless Communication Engineering Technologies (WCET)
Presenter: Celia Desmond, World Class Telecommunications, Canada
The WCET Certification Program has been designed to address the worldwide wireless industry's growing and ever-evolving need for qualified communications professionals who can demonstrate practical problem-solving skills in real-world situations. The certification program and related topics are covered.

Monday, 1 December 2008 • 13:50 – 15:30
Location: Magnolia/Third Level

DD03M2: Wireless Access for Vehicular Environments (WAVE) I
Presenters: Tim Weil and James Marousek, Booz Allen Hamilton, USA
Wiedong Xiang, University of Michigan, USA
The Department of Transportation Vehicular Infrastructure Integration (DOT VII) program, paving the way for the Intelligent Transportation Systems of tomorrow, envisions a future in which intelligent vehicles routinely communicate with each other and the transportation infrastructure in real time.

Monday, 1 December 2008 • 13:50 – 15:30
Location: Jasperwood/Third Level

DD04M2: Next Generation Service Oriented Networks
Presenter: John Wittgreffe, BT Group PLC, UK
IT resources and other telco capabilities are exposed for direct access by application designers and developers during D&D, and by users at runtime. Resources can be configured to adapt and continually optimize to make sure that the Quality of Experience for end user applications is kept high.

Monday, 1 December 2008 • 16:00 – 18:00
Location: Magnolia/Third Level

DD05M3: Wireless Access for Vehicular Environments (WAVE) II
Presenters: Dimitri Khijniak, Technocom, USA
Tao Zhang, Telcordia Technologies, Inc., USA
Wireless access in vehicular environments (WAVE) technology comes into sight as a state-of-the-art solution to contemporary inter-vehicle communications, which is anticipated to be widely applied in the near future to radically improve the transportation environment in the aspects of safety, intelligent management and data exchange services.

Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Magnolia/Third Level

DD06M3: Emergency Services for IP Networks
Presenters: Richard Barnes, BBN Technologies, USA
Michael Loushine, Telcordia Technologies, Inc., USA
The focus is on Citizen-to-Authority Communications. Users increasingly rely on multimedia communications that take place on next generation networks based on the Internet Protocol (IP). This reliance means that the average user will one day reach for this multimedia communication system to place what could be the most important communication of their life: an emergency services call.

Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Jasperwood/Third Level

DD08T1: Security for Seamless Mobility
Presenters: Nada Golmie, NIST, USA
Vivek Gupta, Intel, USA
Maintaining security during handovers is complex because there are several factors that affect the implementation of security components and how they are characterized and measured in different types of networks. Topics to be covered in this session include common Industry trends and best practices for dealing with security in mobile environment, the development of new specifications in various standard organizations, state-of-the-art and current research activities.
Building a Better World Through Communications

Tuesday, 2 December 2008 • 13:30 – 15:30
Location: Magnolia/Third Level

DD09T2: Modeling and Simulation of Wireless Networks II
Presenters: Jack Burbank and William Kasch, Johns Hopkins University Applied Physics Laboratory, USA
This technical session aims to provide an overview of modeling and simulation tools and techniques available to assist network designers and developers, with a focus on wireless networks. M&S is a critical element in the design, development, and test and evaluation of any network product or solution.

Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Jasperwood/Third Level

DD14W1: Whither IMS
Presenters: Vijay Varma and Michael Loushine, Telcordia Technologies, Inc., USA
IP Multimedia Subsystem (IMS) standardization continues and new capabilities are being introduced, but something is still holding back deployments. This forum addresses the state of the art of IMS from the technical and business angles. The session consists of short presentations followed by a panel discussion.

Wednesday, 3 December 2008 • 13:30 – 15:30
Location: Magnolia/Third Level

DD15W2: FemtoCells
Presenter: Rana Sircar, Wipro Technologies, India
Femtocells, concept aimed at resolving coverage issues and to achieve Fixed-Mobile Convergence in networks. Subscriber benefits are analyzed in terms of cost and user experience. Operator benefits are analyzed in terms of technology challenges, cost, regulatory issues etc.

Wednesday, 3 December 2008 • 13:30 – 15:30
Location: Jasperwood/Third Level

DD16W2: Localization in Wireless Networks I
Presenter: Mussa Bshara, Vrije Universiteit Brussel, Belgium
Wireless communication operators have realized the value and potential to make information services highly personalized, and enabling these to be location based. Providing LBS requires knowing user’s location; this positioning problem in WiMAX networks is addressed in this session.

Wednesday, 3 December 2008 • 16:00 – 18:00
Location: Magnolia/Third Level

DD17W2: Localization in Wireless Networks II
Presenter: Mussa Bshara, Vrije Universiteit Brussel, Belgium
This session complements DD16W2 by discussing Service migration, Service Oriented Architecture (SOA) and their impact, design of modular architecture of MAC (Medium Access Control) layer implementation, and presenting particular case studies.

Tuesday, 2 December 2008 • 16:00 – 18:00
Location: Jasperwood/Third Level

DD18W3: Localization in Wireless Networks III
Presenter: Mussa Bshara, Vrije Universiteit Brussel, Belgium
This technical session complements DD16W2 by discussing Service migration, Service Oriented Architecture (SOA) and their impact, design of modular architecture of MAC (Medium Access Control) layer implementation, and presenting particular case studies.

Tuesday, 2 December 2008 • 16:00 – 18:00
Location: Jasperwood/Third Level

DD19W3: Optical Switching
Presenter: Sunan Han, Fujitsu Network Communications, USA
Ethernet and TDM sub-wavelength switching in Packet Optical Networking (PON) platforms are discussed along with an overview of optical burst switching technologies in Ethernet transport networks, emphasizing its technical and economic benefits.
AH01M1-1: A Localized Self-Healing Algorithm for Networks of Moveable Sensor Nodes
Mohamed Younis, Sookyoun Lee, Sheetal Gupta, Kevin Fisher
(University of Maryland – Baltimore County, USA)

AH01M1-2: Robust Distributed Sensor Network Localization Based on Analysis of Flip Ambiguities
Anushya A. Kannan, Guoqiang Mao (University of Sydney, Australia)
Baris Fidan (National ICT Australia, Canberra, Australia)

AH01M1-3: Sensor Network Localization via Nondifferentiable Optimization
Qingjiang Shi, Chen He, Linglee Jiang, Jun Lou
(Shanghai Jiao Tong University, China)

AH01M1-4: Adaptive Source Localization by a Mobile Robot Using Signal Power Gradient in Sensor Networks
Yi Sun (Chinese Academy of Sciences, China)
Jizhong Xiao, Xiaoli Li, Flavio Cabrera-Mora (City University of New York, USA)

AH01M1-5: Localization Error Evaluation in Heterogeneous Sensor Networks
Shaqiqiang Dong, Prathima Agrawal (Auburn University, USA)
Krishna Sivalingam (University of Maryland – Baltimore County, USA)

AH01M1-6: A Novel Fading-Tolerant High-Accuracy Localization Algorithm Using Distributed Space-Time Block Codes
Xingkai Bao, Tiffany Jing Li (Lehigh University, USA)
Sushanta Das (Philips Research, USA)

AH02M1-1: Load-Balanced Routing Scheme for Energy-Efficient Wireless Sensor Networks
Fatma Bouabdallah, Nizar Bouabdallah (INRIA, Rennes, France)
Raouf Boutaba (University of Waterloo, Canada)

AH02M1-2: Designing an Application-Aware Routing Protocol for Wireless Sensor Networks
Mohammad Abdul Azim, M. Rubaiyat Kibria, Abbas Jamalipour
(University of Sydney, Australia)

AH02M1-3: Oriented Void Avoidance Scheme for Real-Time Routing Protocols in Wireless Sensor Networks
Mohamed Aissani, Abdelhamid Meellouk (University Paris XII, France)
Nadib Badache (USTHB University, Algeria)
Brahim Saidani (Politechnic School, Algeria)

AH02M1-4: Ellipse Routing: A Geographic Routing Protocol for Mobile Sensor Networks
Mohammad Abdul Azim, M. Rubaiyat Kibria, Abbas Jamalipour
(University of Sydney, Australia)

AH02M1-5: Fuzzy Algorithms for Maximum Lifetime Routing in Wireless Sensor Networks
Mahmood R. Minhaz, Sathish Gopalakrishnan, Victor C. M. Leung
(University of British Columbia, Canada)

AH03M1-1: Backhaul as a Bottleneck in IEEE 802.16e Networks
Mahmood R. Minhas, Sathish Gopalakrishnan, Victor C. M. Leung
(University of British Columbia, Canada)

AH03M1-2: Designing an Application-Aware Routing Protocol for Wireless Sensor Networks
Mohammad Aissani, Abdelhamid Meellouk (University Paris XII, France)
Nadib Badache (USTHB University, Algeria)
Brahim Saidani (Politechnic School, Algeria)

AH03M1-3: Cross-Layer Error Control Optimization in WiMAX
Dmitry Kliazovich (University of Trento, Italy)
Tommaso Beniero (Politecnico di Milano, Italy)
Sergio Dalsass (University of Trento, Italy)
Federico Serrelli (Politecnico di Milano, Italy)
Simone Redana (Nokia Siemens Networks, Germany)
Fabrizio Granelli (University of Trento, Italy)

Wen-Tsun Chen, Po-Yu Chen, Cheng-Han Wu
(National Tsing-Hua University, Taiwan)
Chi-Fu Huang (National Chiao-Tung University, Taiwan)

AH03M1-5: Practical Design of IEEE 802.16e Networks: A Mathematical Model and Algorithms
Fernando Gordejuela-Sánchez (University of Bedfordshire, UK)
Jie Zhang (Beijing University of Posts and Telecommunications, China)
Monday, 1 December 2008 • 10:00 – 12:00
Location: Grand Salon 9/Street Level
CS01M1: Multimedia Application and Services
Chair: Edmundo Monteiro, University of Coimbra, Portugal

CS01M1-1: Competition for Migrating Customers: A Game-theoretic Analysis in a Regulated Environment
Patrick Maille (Telecom Bretagne, Cesson-Sevigne, France)
Maurizio Naldi (University of Rome “Tor Vergata”, Italy)
Bruno Tuffin (INRIA Rennes - Bretagne Atlantique, France)

CS01M1-2: Feedback Statistics on Anonymous Service Usage
Nils Richter, Joao da Silva, Daniele Abbadesa (NEC Europe Ltd., Germany)

CS01M1-3: Identity Management for IMS-based IPTV
Florian Winkler, Mischa Schmidt, Sebastian Felix, Oleg Neuwirt, Nils Richter, Joao da Silva, Daniele Abbadesa (NEC Network Labs, Germany)

CS01M1-4: Simple Strong Authentication for Internet Applications Using Mobile Phones
Do van Thanh (Telenor & NTNU, Norway)
Tore Jarvik, Boning Feng (Oslo University College, Norway)
Do van Thuan (Linus, Norway)
Ivar Jarstad (Usbise, Norway)

CS01M1-5: A Method of Bridging and Processing Media Stream on a Network
Satoshi Kondo, Takaaki Moriya, Hyo-Young Kim (Nippon Telegraph and Telephone Corporation, Japan)

CS01M1-6: Multimedia Capacity Analysis of the IEEE 802.11e Contention-based Infrastructure Basic Service Set
Inanc Inan, Feyza Keceli, Ender Ayanoglu (University of California at Irvine, USA)

Monday, 1 December 2008 • 10:00 – 12:00
Location: Grand Salon 19/Street Level
NG01M1: Peer-to-Peer Networking
Chair: Marco Mellia, Politecnico di Torino, Italy

NG01M1-1: Evaluating P2PSIP under Attack: An Emulative Study
Jan Seedorf (NEC Europe Ltd., Germany)
Frank Ruwoit (University of Hamburg, Germany)
Martin Steimerling (University of Goettingen, Germany)
Saverio Niccolini (NEC Europe Ltd., Germany)

NG01M1-2: Modeling Peer-to-Peer Networks from the Impact of Nodes’ Characteristics on the System Performance
Yadong Gong, Xiaolai Lin (Sun Yat-Sen University, China)

NG01M1-3: A Low Cost and Reliable Anonymity Scheme in P2P Reputation Systems with Trusted Third Parties
Liming Hao, Songnian Lu, Junhua Tang, Aixin Zhang (Shanghai Jiao Tong University, China)

NG01M1-4: Foresighted Resource Reciprocation Strategies in P2P Networks
Hyunggon Park, Mihaela van der Schaar (University of California at Los Angeles, USA)

NG01M1-5: Incentive Mechanism Considering Variety of User Cost in P2P Content Sharing
Kenichiro Sato, Ryo Hashimoto, Makoto Yoshino, Ryoichi Shinkuma, Tatsuro Takahashi (Kyoto University, Japan)

NG01M1-6: Tod-cache: Peer-to-Peer Traffic Management and Optimization using Combined Caching and Redirection
Ke Xu (Tsinghua University, China)
Jiangchuan Liu, Haiyang Wang (Simon Fraser University, USA)

Monday, 1 December 2008 • 10:00 – 12:00
Location: Grand Salon 21/Street Level
CT01M1: Uplink and Downlink Communication
Chair: Syed Jafar, University of California at Irvine, USA

CT01M1-1: Uplink Throughput Scaling in Dense Wireless Networks with Limited Collaboration
Feng Xue (Intel Research, USA)
Jun Shi (Qualcomm Corp R&D, USA)

CT01M1-2: Optimal Diversity Multiplexing Tradeoff of Constrained Asymmetric MIMO Systems
Hsiao-feng Lu (National Chung-Cheng University, Taiwan)

CT01M1-3: Multiuser Transmit beamforming via Regularized Channel Inversion: A Large System Analysis
Van K. Nguyen (DSTO, Australia)
Jamie S. Evans (University of Melbourne, Australia)

CT01M1-4: On the Capacity of One-sided Two-user Gaussian Fading Broadcast Channels
Amin Jafarian, Srinath Vishwanath (University of Texas at Austin, USA)

CT01M1-5: A General Rate Duality of the MIMO Multiple Access Channel and the MIMO Broadcast Channel
Raphael Hunger, Michael Joham (Technische Universität München, Germany)

CT01M1-6: On the Convexity of the MSE Region of Single-Antenna Users
Raphael Hunger, Michael Joham (Technische Universität München, Germany)

Monday, 1 December 2008 • 10:00 – 12:00
Location: Grand Salon 13/Street Level
NS01M1: Key Management
Chair: Kai Zheng, IBM China Research Lab, China

NS01M1-1: An Efficient Group Key Management for Secure Routing in Ad Hoc Networks
Natalia Castro Fernandes, Otto Carlos Muniz Bandeira Duarte (Universidade Federal do Rio de Janeiro, Brazil)

NS01M1-2: An Efficient Conference Key Updating Scheme with the Knowledge of Group Dynamics
Xiaozhuo Gu, Jianzu Yang, Xiangjie Ma, Julong Lan (National Digital Switching System Engineering & Technological R&D Center, China)

NS01M1-3: A Secure Key Management Scheme for Wireless and Mobile Ad Hoc Networks using Frequency-based Approach: Proof and Correctness
Azzedine Boukerche, Yonglin Ren (University of Ottawa, Canada)

NS01M1-4: Three-party Quantum Authenticated Key Distribution with Partially Trusted Third Party
Yoshito Kanamori, Bogdan Hoanca (University of Alabama, USA)

NS01M1-5: Certificate Assignment Strategies for a PKI-based Security Architecture in a Vehicular Network
Bhargav Bellur (GM Research, India)

NS01M1-6: Secret Key Generation and Agreement in UWB Communication Channels
Masoud Ghoresi, Madiseh, Michaei L. McGuire, Stephen S. Neville, Lin Cai, Michael Horie (University of Victoria, Canada)

Monday, 1 December 2008 • 10:00 – 12:00
Location: Grand Salon 19/Street Level
NG01M1: Peer-to-Peer Networking
Chair: Marco Mellia, Politecnico di Torino, Italy

NG01M1-1: Evaluating P2PSIP under Attack: An Emulative Study
Jan Seedorf (NEC Europe Ltd., Germany)
Frank Ruwoit (University of Hamburg, Germany)
Martin Steimerling (University of Goettingen, Germany)
Saverio Niccolini (NEC Europe Ltd., Germany)

NG01M1-2: Modeling Peer-to-Peer Networks from the Impact of Nodes’ Characteristics on the System Performance
Yadong Gong, Xiaolai Lin (Sun Yat-Sen University, China)

NG01M1-3: A Low Cost and Reliable Anonymity Scheme in P2P Reputation Systems with Trusted Third Parties
Liming Hao, Songnian Lu, Junhua Tang, Aixin Zhang (Shanghai Jiao Tong University, China)

NG01M1-4: Foresighted Resource Reciprocation Strategies in P2P Networks
Hyunggon Park, Mihaela van der Schaar (University of California at Los Angeles, USA)

NG01M1-5: Incentive Mechanism Considering Variety of User Cost in P2P Content Sharing
Kenichiro Sato, Ryo Hashimoto, Makoto Yoshino, Ryoichi Shinkuma, Tatsuro Takahashi (Kyoto University, Japan)

NG01M1-6: Tod-cache: Peer-to-Peer Traffic Management and Optimization using Combined Caching and Redirection
Ke Xu (Tsinghua University, China)
Jiangchuan Liu, Haiyang Wang (Simon Fraser University, USA)
Monday, 1 December 2008 • 10:00 – 12:00
Location: Grand Salon 16/Street Level
SA01M1: Emerging Access Network Technologies
Chair: Marco Chiani, University of Bologna, Italy

Abu Ahmed Reaz, Vishwanath Ramamurthi, Suman Sarkar, Dipak Ghosal, Biswanath Mukherjee (University of California at Davis, USA)

SA01M1-2: Dealing with Loud Neighbors: The Benefits and Tradeoffs of Adaptive Femtocell Access
David Choi, Pooya Monajemi, Shinjae Kang, John Villasenor (University of California at Los Angeles, USA)

SA01M1-3: Attributes Definitions and Measurement Methods for MADM based Sink Selection Controls in Satellite Sensor Networks
Igor Bisio, Mario Marchese (University of Genoa, Italy)

SA01M1-4: Active Remote Node with Layer Two Forwarding for Improving Performance of EPON
Chien Aun Chan (National ICT Australia, University of Melbourne, Australia)

Manik Attygalle (Defence Science and Technology Organisation, Australia)

Ambalampalanipalal Nimalathas (University of Melbourne, Australia)

SA01M1-5: Throughput and Delay of DSL Dynamic Spectrum Management with Dynamic Arrivals
Paschalis Tsiaflakis (Katholieke Universiteit Leuven, Belgium)
Yung Yi, Mung Chiang (Princeton University, USA)
Marc Moonen (Katholieke Universiteit Leuven, Belgium)

Boris Dortschy (Ericsson AB, Sweden)
Evaldo Pelaes, Aldebaro Klautau (Universidade Federal do Pará, Brazil)

SA01M1-6: Impact of Crosstalk Estimation on the Dynamic Spectrum Management Performance
Neiva Lindqvist (Universidade Federal do Pará, Brazil)
Fredrik Lindqvist (Lund University, Sweden)

Boris Dortschy (Ericsson AB, Sweden)

Monday, 1 December 2008 • 10:00 – 12:00
Location: Grand Salon 22/Street Level
SP01M1: MIMO 1
Chair: Tomoaki Ohtsuki, Kelo University, Japan

SP01M1-1: Robust Semi-Blind Estimation for Beamforming Based MIMO Wireless Communication
Chandra R. Murthy (Indian Institute of Science, India)
Bhaskar D. Rao (University of California at San Diego, USA)
Aditya K. Jagnnatham (Qualcomm Inc., USA)

SP01M1-2: Robust Transceiver Design for Multiuser MIMO Downlink
P. Ubaidulla, A. Chockalingam (Indian Institute of Science, India)

SP01M1-3: A Lattice Predecoding for Flat-Fading MIMO Channels Based on Eigenvector Decomposition
Jin He, Masoud Salehi (Northeastern University, USA)

SP01M1-4: An Improved Tomlinson-Harashima Precoder Reducing Transmission Power
Jiwon Kang, Chungyong Lee (Yonsei University, Korea)
Hyungwoo Ku (LG Electronics, Korea)
Dong-Seung Kwon (ETRI, Korea)

SP01M1-5: Limited Feedback Beamforming Codebook Design for Dual-Polarized MIMO Channels
Taejoon Kim (Purdue University, USA)
Bruno Clerckx (Samsung Advanced Institute of Technology, Korea)
David Love (Purdue University, USA)
Sungjin Kim (Samsung Advanced Institute of Technology, Korea)

SP01M1-6: Game Theoretic Solutions for Precoding Strategies over the Interference Channel
Jie Gao, Sergiy A. Vorobyov, Hai Jiang (University of Alberta, Canada)
Monday, 1 December 2008 • 10:00 – 12:00
Location: Grand Salon 6/Street Level
**WN02M1: Modeling and Optimization of Wireless Networks**
Chair: **Yu Cheng**, Illinois Institute of Technology, USA

**WN02M1-1: Performance Metric Sensitivity Computation for Optimization and Trade-off Analysis in Wireless Networks**
John S. Baras, Vahid Tabatabaei, George Papageorgiou, Nicolas Rentz (University of Maryland at College Park, USA)

**WN02M1-2: Two-fold Pricing to Guarantee Individual Profits and Maximum Social Welfare in Wireless Access Networks**
A. Hamed Mohsenian Rad, Vincent W. S. Wong, Victor C. M. Leung (University of British Columbia, Canada)

**WN02M1-3: Power Efficient Throughput Maximization in Multi-Hop Wireless Networks**
Deepti Chafekar, V. S. Anil Kumar, Madhav V. Marathe (Virginia Tech, USA)
Srinivasan Parthasarathy (IBM T. J. Watson Research Center, USA)

**WN02M1-4: Tradeoff Between CPAN Size and the Number of Working Channels**
Jelena Misic, Vojislav B. Misic (University of Manitoba, Canada)

**WN02M1-5: Binary Consensus Over Fading Channels: A Best Affine Estimation Approach**
Mehrzad Malmirchegini, Yasamin Mostofi, Yongxiang Ruan (University of New Mexico, USA)

**WN02M1-6: Bandwidth Differentiation and Throughput Maximization in IEEE 802.11e WLAN**
Yun Li (CWIN, Chongqing University of Posts and Telecommunications of China, China)
Chonggang Wang (University of Arkansas, USA)
Qianbin Chen (CWIN, Chongqing University of Posts and Telecommunications of China, China)
Keping Long (COIMIN, University of Electronic Science and Technology of China, China)

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**Poster Sessions**
Monday, 1 December 2008 • 10:00 – 12:00
Location: Expo Poster Area 2/EXPO Hall/Second Level

**NG10PM1: Networked Services**
Chair: **Jun Zheng**, University of Ottawa, Canada

**NG10PM1-1: User Behavior Modeling and Traffic Analysis of IMS Presence Servers**
Z. Cao, Y. Xiao (Institute of Information Science, China)
C. Chi (Lucent Technologies, China)
R. Hao (Bell Labs Research China, Lucent Technologies, China)

**NG10PM1-2: Real-Time P2P Traffic Identification**
Jun Li (Shanghai Jiaotong University, China)
Shunyi Zhang, Yanqing Lu, Junrong Yan (Nanjing University of Posts and Telecommunications, China)

**NG10PM1-3: A Memory-optimized Bloom Filter using an Additional Hashing Function**
Mahmood Ahmadi, Stephan Wong (Delft University of Technology, Netherlands)

**NG10PM1-4: H-SIP: Hybrid SIP Network**
F. Callegati, A. Campi, W. Cerroni (Università di Bologna, Italy)

**NG10PM1-5: Improving Bit Torrent Traffic Performance by Exploiting Geographic Locality**
Chen Tian (Huazhong University of Science and Technology, China)
Xue Liu (McGill University, Canada)
Hongbo Jiang, Wenyu Liu, Yi Wang (Huazhong University of Science and Technology, China)

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Monday, 1 December 2008 • 10:00 – 12:00
Location: Expo Poster Area 3/EXPO Hall/Second Level

**NG12PM1: Network Performance**
Chair: **Jun Zheng**, University of Ottawa, Canada

**NG12PM1-1: Using the ECN Nonce to detect Spurious Loss Events in TCP**
Michael Welzl (University of Innsbruck, Austria)

**NG12PM1-2: Performance Study of the NSIS QoS-NSLP Protocol**
Mayutan Arumaithurai (University of Goettingen and Nokia Siemens Networks, Germany)
Xiaoming Fu, Bernd Schloer (University of Goettingen, Germany)
Hannes Tschofenig (University of Goettingen and Nokia Siemens Networks, Germany)

**NG12PM1-3: An Ethernet Access Architecture for Highly Available IPTV**
Wei-Kuo Liao (National Chiao-Tung University, Taiwan)
Ping-Hai Hsu, Shu-Kang Tseng, Kang-Chiao Ling (Information and Communications Research Laboratories, Taiwan)

**NG12PM1-4: Delay-Dependent Stability Analysis for Large-Scale Multiple-Bottleneck Systems using Singular Perturbation Approach**
Lijun Wang, Xuemin Shen, Xinzhi Liu (University of Waterloo, Canada)
Hiroaki Mukaidani (Hiroshima University, Japan)

**NG12PM1-5: Autonomous Network Management Using Cooperative Learning for Network-Wide Load Balancing in Heterogeneous Networks**
Minsoo Lee, Xiaohui Ye, Dan Marconetti, Rao Vemuri, Samuel Johnson, S. J. Ben Yoo (University of California at Davis, USA)
Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Salon 4/Street Level
AH04M2: Modeling of WSN I
Chair: Lynda Mokdad, Université de Paris Dauphine, France
AH04M2-1: Lifetime Analysis for Wireless Sensor Networks
H. Legakis, M. Mehmet Ali, J. F. Hayes (Concordia University, USA)
AH04M2-2: A Wireless Array Based Cooperative Sensing Model in Sensor Networks
W. Li, Y. I. Kamil, A. Manikas (Imperial College London, UK)
AH04M2-3: Distributed Regression in Sensor Networks with a Reduced-order Kernel Model
Paul Honeine, Mehdi Essoloh, Cedric Richard, Hichem Snoussi (University of Technology of Troyes, France)
AH04M2-4: Optimizing Video Transmission over Wireless Multimedia Sensor Networks
Ilias Politis, Michail Tsagkaropoulos, Stavros Kotsopoulos (University of Patras, Greece)
AH04M2-5: An Energy Efficient Hybrid Medium Access Control Scheme for Wireless Sensor Networks with Quality of Service Guarantees
Bashir Yahya, Jalel Ben-Othman (University of Versailles, France)

Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Salon 7/Street Level
AH05M2: Sensor Network Security
Chair: Nei Kato, Tohoku University, Japan
AH05M2-1: A New Security Scheme for Wireless Sensor Networks
Junqi Zhang, Vajay Varadharajan (Macquarie University, Australia)
AH05M2-2: Weaving a Proper Net to Catch Large Objects
Y. Xiao (Institute of Information Science, Beijing Jiaotong University, China)
Alina Olteanu (University of Alabama, USA)
Kui Wu (University of Victoria, Canada)
Xiaoqiang Du (North Dakota State University, USA)
AH05M2-3: A Combinatorial Approach for Key-Distribution in Wireless Sensor Networks
H. Shafiei (IPM, Iran)
A. Mehdizadeh (Amirkabir University of Technology, Iran)
A. Khonsari (IPM, Iran)
M. Ould-Khaoua (University of Glasgow, UK)
AH05M2-4: Epidemic Propagation in Overlaid Wireless Networks
Evsen Yanmaz (Los Alamos National Laboratory, USA)
AH05M2-5: Pairing-Based Secure Timing Synchronization for Heterogeneous Sensor Networks
Sk. Md. Mizanur Rahman, Nidal Nasser (University of Guelph, Canada)
Tarik Taleb (Tohoku University, Japan)
Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Salon 19/Street Level

**NG02M2: Routing**
Chair: Edmundo Monteiro, University of Coimbra, Portugal

**NG02M2-1: An AS Border Judgment Method Based on IP Path Information**
Zhenhai Wei (PLA University of Science and Technology, China)
Ming Chen (National Mobile Communications Research Laboratory, Southeast University, China)
Liang Ji, Honghua Zhao (PLA University of Science and Technology, China)

**NG02M2-2: Traffic-Aware Inter-Domain Routing for Improved Internet Routing Stability**
Peng Chen, Woon Hyung Cho, Zhenhai Duan, Xin Yuan (Florida State University, USA)

**NG02M2-3: Survivability-Enhancing Routing Scheme for Multi-Domain Networks**
X. Li, S. Ruepp, L. Dittmann, A. V. Manolova (Technical University of Denmark, Denmark)

**NG02M2-4: A Run-Time Solution to Inter-Domain Policy Disputes**
Huaming Guo, Hongbin Luo, Hongke Zhang (Beijing Jiaotong University, China)

**NG02M2-5: Architecture and Performance of a Practical IP Fast Reroute Implementation**
Ole Kristoffer Apeland (Simula Research Laboratory, Norway)
Tarik Cicic (University of Oslo, Norway)

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Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Salon 13/Street Level

**NS02M2: Cryptography**
Chair: Neeli Prasad, Center for TeleInFrastructure, Denmark

**NS02M2-1: A Lightweight Block Cipher Based on a Multiple Recursive Generator**
Alina Olteanu (University of Alabama, USA)
Y. Xiao (Institute of Information Science, Beijing Jiaotong University, China)
Fei Hu (University of Alabama, USA)
Bo Sun (Lamar University, USA)

**NS02M2-2: Involutional Block Cipher for Limited Resources**
A. Grocholawska-Czurylo, K. Chmiel, J. Stoklosa (Poznan University of Technology, Poland)

**NS02M2-3: Small Logarithmic S-Boxes for Small Ciphers**
Xian Liu (University of Arkansas at Little Rock, USA)

**NS02M2-4: Multi-Receiver Identity-Based Encryption in Multiple PKG Environment**
Liuquan Qin, Zhenfu Cao, Xiaolei Dong (Shanghai Jiao Tong University, China)

**NS02M2-5: Chaotic Progressive Access Control for JPEG2000 Images Repositories**
Mohamed Hamdi, Noureddine Boudriga (University of Carthage, Tunisia)

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Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Salon 16/Street Level

**SA02M2: Emerging Wireless Transmission Technologies**
Chair: Robert Schober, University of British Columbia, Canada

**SA02M2-1: MIMO UWB Systems Based on Linear Precoded OFDM for Home Gigabit Applications**
Antoine Stephan, Jean-François Hélard (Institute of Electronics and Telecommunications of Rennes, France)
Bernard Uguen (Université Rennes I, France)

**SA02M2-2: An Emerging Concatenated Multitone Air Interface for High Speed Access and Home Wireless Networks**
Andrea M. Tonello, Marco Bellini (University of Udine, Italy)

**SA02M2-3: Two-Layer Phase Coding Interference Cancellation Enhancement of Uplink Broadband Wireless Access System**
Thanh Son Le (University Graduate Center, Norway)

**SA02M2-4: Performance Analysis of Free-Space Optical Systems in Gamma-Gamma Fading**
Ehsan Bayaki, Robert Schober (University of British Columbia, Canada)
Ranjit Mallik (Indian Institute of Technology - Delhi, India)

**SA02M2-5: Compressive Sensing Receiver for Free-Space Optical Communication through the Atmosphere**
Mohamed D. A. Mohamed, Steve Hranilovic (McMaster University, Canada)

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Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Salon 9/Street Level

**SA03M2: Satellite Systems and Architectures**
Chair: Giovanni Giambene, University of Siena, Italy

**SA03M2-1: Architecture for Real-Time Stream Error Handling in Converged DVB-SH/Cellular Network**
Bessem Sayadi, Yann Leprovost, Marie-Line Alberi-Morel, Sylvaine Kerboeuf (Alcatel-Lucent, France)

**SA03M2-2: Adaptive Erasure Coding Schemes for Interplanetary Networks with Incomplete Channel Side Information**
Tomaso De Coia (German Aerospace Center, Germany)
Mario Marchese (DIST- University of Genoa, Italy)

**SA03M2-3: Multi-Hop Synchronization at the Application Layer of Wireless and Satellite Networks**
A. Marco, R. Casas, V. Coaras (University of Zaragoza, Spain)
J. L. Sevillano (Universidad de Sevilla, Spain)
J. L. Falco (University of Zaragoza, Spain)
M. S. Obaidat (Monmouth University, USA)

**SA03M2-4: A Comparison Framework for MSSs**
Paolo Chini, Giovanni Giambene (University of Siena, Italy)
Sastri Kota (Harris Corporation, USA)

**SA03M2-5: Satellite System Design Examples for Maximum MIMO Spectral Efficiency in LOS Channels**
A. Knopp, R. T. Schwarz (Federal Office of the German Armed Forces for Information Technology, Germany)
D. Ogermann, C. A. Hofmann, B. Lanki (Munich University of the German Federal Armed Forces, Germany)
Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Salon 22/Street Level

**SP03M2: Sensor Networks**
Chair: Siriram Vishwanath, University of Texas at Austin, USA

**SP03M2-1: Power Allocation in Wireless Relay Networks: A Geometric Programming-Based Approach**
Khoa T. Phan (University of Alberta, Canada)
Tho Le-Ngoc (McGill University, Canada)
Sergiy A. Vorobyov, Chintia Tellambura (University of Alberta, Canada)

**SP03M2-2: Robustness Analysis of Source Localization Using Gaussianity Measure**
Kun Yan, Hsiao-Chun Wu, S. S. Iyengar (Louisiana State University, USA)

**SP03M2-3: Decision Fusion over Noncoherent Fading Multiaccess Channels**
Feng Li, Jamie S. Evans (University of Melbourne, Australia)

**SP03M2-4: Sufficient-Statistics Based Multiple Access over Wireless Fading Channels**
Gokhan Mergen (Qualcomm, USA)
Birsen Sirkeci-Mergen (San Jose State University, USA)
Michael Gastpar (University of California at Berkeley, USA)

Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Salon 24/Street Level

**SP04M2: OFDM II**
Chair: Shengli Fu, University of North Texas, USA

**SP04M2-1: A Second Order Statistics Based Algorithm for Blind Recognition of OFDM Based Systems**
Abdelaziz Bouzegz, Pierre Jallon (Commissariat à L’energie Atomique, France)
Philippe Ciblat (ENST, France)

**SP04M2-2: Antenna Array Calibration Using Frequency Selection in OFDMA/TDD Systems**
Yoshitaka Hara, Yasuhiro Yano, Hiroshi Kubo (Mitsubishi Electric Corporation, Japan)

**SP04M2-3: An Efficient Near Blind Carrier Frequency Offset Estimation Scheme for MIMO-OFDM Systems**
Sameer S. M, R. V. Raja Kumar (Indian Institute of Technology at Kharagpur, India)

**SP04M2-4: Digital Baseband Compensation for Mobile SFBC-OFDM Systems with Receiver I/Q Imbalance**
Balachander Narasimhan, Dandan Wang, Sudharsan Narayanan, Naofal Al-Dhahir, Haing Minn (University of Texas at Dallas, USA)

**SP04M2-5: Multiuser Carrier Frequency Offset Estimation for OFDMA Uplink with Generalized Carrier Assignment Scheme**
Huiming Wang, Qinye Yin, Le Ding, Ke Deng (Xi’an Jiaotong University, China)

Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Salon 21/Street Level

**WC05M2: Fundamental Limits in MIMO Communications**
Chair: Athanasios Kanatas, University of Piraeus, Greece

**WC05M2-1: Sum Capacity of Opportunistic Scheduling for Multiuser MIMO Systems with Linear Receivers**
Raymond H. Y. Louie (University of Sydney, Australia)
Matthew R. McKay (Hong Kong University of Science and Technology, Hong Kong)
Iain B. Collings (CSIRO ICT Centre, Australia)

**WC05M2-2: On the Ergodic Capacity of Frequency Selective MIMO Systems equipped with MMSE Receivers: An Asymptotic Approach**
C. Artigue (Université de Marne la Vallée/Freescale Semiconductor, France)
P. Loubaton (Université de Marne La Vallée, France)
B. Mouhouche (Freescale Semiconductor, France)

**WC05M2-3: Optimal Front-End Design for MIMO Receivers**
Carlo P. Domizioli, Brian L. Hughes, Kevin G. Gard, Gianluca Lazzi (North Carolina State University, USA)

**WC05M2-4: A Decomposition Approach to MIMO Interference Relay Networks**
Mohammad Ali Torabi, Jean-François Frigon (École Polytechnique de Montréal, Canada)

**WC05M2-5: Outage Capacity Analysis of Downlink OFDMA Resource Allocation with Multiple Transmit Antennae and Limited Feedback**
Jouko Leinonen (University of Oulu, Finland)
Jyrí Hämäläinen (Helsinki University of Technology, Finland)
Markku Juntti (University of Oulu, Finland)

Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Ballroom A/Street Level

**WC06M2: Applications of Cooperative Communications**
Chair: Shankar Prakriya, IITD, India

**WC06M2-1: AOA Cooperative Position Localization**
Jun Xu, Maode Ma, Choi Look Law (Nanyang Technological University, Singapore)

**WC06M2-2: Compressed Wideband Sensing in Cooperative Cognitive Radio Networks**
Zhi Tian (Michigan Technological University, USA)

**WC06M2-3: On Cellular Capacity with Base Station Cooperation**
Li Ping, Wang Peng (City University of Hong Kong, Hong Kong)
Hao Wang, Xiaokang Lin (Tsinghua University, China)

**WC06M2-4: On Relay Nodes Deployment for Distributed Detection in Wireless Sensor Networks**
Karim G. Seddik (Alexandria University, Egypt)
K. J. Ray Liu (University of Maryland, USA)

**WC06M2-5: Performance Analysis for a Fully Decentralized Transmit Power Allocation Scheme for Relay-Assisted Cognitive-Radio Systems**
Jan Mietzner, Lutz Lampe, Robert Schober (University of British Columbia, Canada)

Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Salon 15/Street Level

**WC07M2: Network Coding**
Chair: John Shea, University of Florida, USA

**WC07M2-1: Joint Network Coding and Superposition Coding for Multi-User Information Exchange in Wireless Relaying Networks**
Chun-Hung Liu, Ari Arapostathis (University of Texas at Austin, USA)

**WC07M2-2: Physical Layer Network Coding Schemes over Finite and Infinite Fields**
Zhang Shengli, Soung Chang Liew, Lu Lu (Chinese University of Hong Kong, China)

**WC07M2-3: Denoising Maps and Constellations for Wireless Network Coding in Two-Way Relaying Systems**
Toshiaki Koike-Akino (Harvard University, USA)
Petr Popovski (Aalborg University, Denmark)
Vahid Tarokh (Harvard University, USA)
Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Ballroom B/Street Level

WN04M2: Security Issues in Wireless Networks
Chair: Vojislav Misic, University of Manitoba, Canada

WN04M2-1: Towards Secure Link Quality Measurement in Multihop Wireless Networks
Kai Zeng, Shucheng Yu (Worcester Polytechnic Institute, USA)
Kui Ren (Illinois Institute of Technology, USA)

WN04M2-2: Distributed Key Management with Protection Against RSU Compromise in Group Signature Based VANETs
Yong Hao, Yu Cheng, Kui Ren (Illinois Institute of Technology, USA)

WN04M2-3: Trust-Based Fast Authentication for Mobile IPv6 Networks
Jiao Zhang, Jiao Zhang, Yujun Zhang, Hanwen Zhang, Yi Sun, Zhongcheng Li (Institute of Computing Technology, Chinese Academy of Sciences, China)

WN04M2-4: Self-Propagate Mal-Packets in Wireless Sensor Networks: Dynamics and Defense Implications
Bo Sun, Dibesh Shrestha (Lamar University, USA)
Guahua Yan (Los Alamos National Laboratory, USA)
Yang Xiao (University of Alabama, USA)

WN04M2-5: Jamming ACK Attack to Wireless Networks and a Mitigation Approach
Zhiguo Zhang, Jingqi Wu (University of New Orleans, USA)
Jing Deng (University of North Carolina at Greensboro, USA)
Meikang Qiu (University of New Orleans, USA)

Poster Sessions
Monday, 1 December 2008 • 13:50 – 15:30
Location: Expo Poster Area 2/EXPO Hall/Second Level

ON07PM2: Optical Networking
Chair: Rudra Dutta, North Carolina State University, USA

ON07PM2-1: Lightpath-Protecting p-Cycle Selection for Protected Working Lightpath Envelope
Rong He, Kee Chaing Chua, Mohan Gurusamy (National University of Singapore, Singapore)

ON07PM2-2: An Enhanced Mathematical Model for Performance Evaluation of Optical Burst Switched Networks
Mohamed H. S. Morsy, Mohammad Y. S. Sowallem, Hossam M. H. Shalaby (University of Alexandria, Egypt)

ON07PM2-3: Efficient Power-Aware Network Provisioning for All-Optical Multicasting in WDM Mesh Networks
Ashraf M. Hamad (Microsoft Corporation, USA)
Ahmed E. Kamal (Iowa State University, USA)

ON07PM2-4: An Exact ILP Formulation for Optimal Wavelength Converter Usage and Placement in WDM Networks
Phuong Nga Tran, Ulrich Killat (Hamburg-Harburg University of Technology, Germany)

ON07PM2-5: A High-Performance Optical Access and Control System for Packet-Switched WDM Metro Ring Networks
Maria C. Yang, (National Chiao Tung University, Taiwan)
Steven S. W. Lee (ICRL/ITRI, Taiwan)
I-Fen Chao (National Chiao Tung University, Taiwan)
Yu-Min Lin (ICRL/ITRI, Taiwan)
Bird C. Lo, Po-Lung Tien (National Chiao Tung University, Taiwan)

ON07PM2-6: Performance Study of OBS Networks using Traffic Engineering in the Wavelength Domain and Delayed Ingress Burst Scheduling
João Pedro, Paulo Monteiro, João Pires (Nokia Siemens Networks, Portugal)

Monday, 1 December 2008 • 13:50 – 15:30
Location: Grand Salon 6/Street Level

WN04M2: Security Issues in Wireless Networks
Chair: Vojislav Misic, University of Manitoba, Canada

WN04M2-1: Towards Secure Link Quality Measurement in Multihop Wireless Networks
Kai Zeng, Shucheng Yu (Worcester Polytechnic Institute, USA)
Kui Ren (Illinois Institute of Technology, USA)

WN04M2-2: Distributed Key Management with Protection Against RSU Compromise in Group Signature Based VANETs
Yong Hao, Yu Cheng, Kui Ren (Illinois Institute of Technology, USA)

WN04M2-3: Trust-Based Fast Authentication for Mobile IPv6 Networks
Jiao Zhang, Jiao Zhang, Yujun Zhang, Hanwen Zhang, Yi Sun, Zhongcheng Li (Institute of Computing Technology, Chinese Academy of Sciences, China)

WN04M2-4: Self-Propagate Mal-Packets in Wireless Sensor Networks: Dynamics and Defense Implications
Bo Sun, Dibesh Shrestha (Lamar University, USA)
Guahua Yan (Los Alamos National Laboratory, USA)
Yang Xiao (University of Alabama, USA)

WN04M2-5: Jamming ACK Attack to Wireless Networks and a Mitigation Approach
Zhiguo Zhang, Jingqi Wu (University of New Orleans, USA)
Jing Deng (University of North Carolina at Greensboro, USA)
Meikang Qiu (University of New Orleans, USA)

Poster Sessions
Monday, 1 December 2008 • 13:50 – 15:30
Location: Expo Poster Area 2/EXPO Hall/Second Level

ON07PM2: Optical Networking
Chair: Rudra Dutta, North Carolina State University, USA

ON07PM2-1: Lightpath-Protecting p-Cycle Selection for Protected Working Lightpath Envelope
Rong He, Kee Chaing Chua, Mohan Gurusamy (National University of Singapore, Singapore)

ON07PM2-2: An Enhanced Mathematical Model for Performance Evaluation of Optical Burst Switched Networks
Mohamed H. S. Morsy, Mohammad Y. S. Sowallem, Hossam M. H. Shalaby (University of Alexandria, Egypt)

ON07PM2-3: Efficient Power-Aware Network Provisioning for All-Optical Multicasting in WDM Mesh Networks
Ashraf M. Hamad (Microsoft Corporation, USA)
Ahmed E. Kamal (Iowa State University, USA)

ON07PM2-4: An Exact ILP Formulation for Optimal Wavelength Converter Usage and Placement in WDM Networks
Phuong Nga Tran, Ulrich Killat (Hamburg-Harburg University of Technology, Germany)

ON07PM2-5: A High-Performance Optical Access and Control System for Packet-Switched WDM Metro Ring Networks
Maria C. Yang, (National Chiao Tung University, Taiwan)
Steven S. W. Lee (ICRL/ITRI, Taiwan)
I-Fen Chao (National Chiao Tung University, Taiwan)
Yu-Min Lin (ICRL/ITRI, Taiwan)
Bird C. Lo, Po-Lung Tien (National Chiao Tung University, Taiwan)

ON07PM2-6: Performance Study of OBS Networks using Traffic Engineering in the Wavelength Domain and Delayed Ingress Burst Scheduling
João Pedro, Paulo Monteiro, João Pires (Nokia Siemens Networks, Portugal)
ON08PM2: Optical Networks and Subsystems
Chair: Georgios Ellinas, University of Cyprus, Cyprus

ON08PM2-1: Complementary Approaches to Accurately Evaluate the Performance in Optically Pre-Amplified DPSK Receivers with Direct Detection
Luis G. C. Cancela, João J. O. Pires (Instituto de Telecomunicações, Portugal)

ON08PM2-2: Hitless Switching Scheme for Protected PON System
Hiromi Ueda, Toshinori Tsuobi, Hiroyuki Kasai
(Tokyo University of Technology, Japan)

ON08PM2-3: Strictly Nonblocking f-cast Photonic Switching Networks under General Crosstalk Constraints
Thanh-Nhan Nguyen, Hung Q. Ngo, Yang Wang
(State University of New York at Buffalo, USA)

ON08PM2-4: Optical or Electrical Interconnects: Quantitative Comparison from Parallel Computing Performance View
Rentao Gu, Yaqiong Qiao, Yuefeng Ji
(Beijing University of Posts and Telecommunications, China)

ON08PM2-5: Dynamic Path Reconfiguration among Hybrid FSO/RF Nodes
Ye Tian, Min Sheng, Jiandong Li, Yan Zhang
(State University of New York at Buffalo, USA)

ON08PM2-6: Countering Atmospheric Turbulence in Free Space Optical Links using Wavelet Based Signal Processing
Latsa Babu Pedireddi, Balaji Srinivasan
(Indian Institute of Technology at Madras, India)

Monday, 1 December 2008 • 13:50 – 15:30
Location: Expo Poster Area 3/EXPO Hall/Second Level

SP13PM2: Advanced Topics in Signal Processing I
Chair: Mallanathan Arumugam, King’s College London, UK

SP13PM2-1: Second-Order Cyclostationarity of Cyclically Prefixed Single Carrier Linear Digital Modulations with Applications to Signal Reception
O. A. Dobre, Q. Zhang (Memorial University of Newfoundland, Canada)
S. Rajan, R. Inkol (DRDC-Ottawa, Canada)

SP13PM2-2: Digital-PLL Assisted Frequency Estimation with Improved Error Variance
Kandeepan Sithamparanathan (Australian National University, Australia)

SP13PM2-3: A Fast Least-Squares Solution-Seeker Algorithm for Vector-Perturbation
Ulises Pineda Rico, E. Alsusa, C. Masouros (University of Manchester, UK)

SP13PM2-4: Enhancement of the Iterative Spectrum Balancing Algorithm for Power Allocation in DSL Systems
Ali Kalakech, Jérôme Louveaux, Luc Vandendorpe
(Université Catholique de Louvain, Belgium)

SP13PM2-5: A Simple Method to Enhance the Detection of Second Order Cyclostationarity
Miao Shi, Yeheskel Bar-Ness (New Jersey Institute of Technology, USA)
Wei Su (US Army RDECOM CERDEC, USA)

SP13PM2-6: Distributed Base Station Cooperation via Block-Diagonalization and Dual-Decomposition
Yosia Hadisusanto, Lars Thiele, Volker Jungnickel
(Fraunhofer Institute for Telecommunications, Heinrich-Hertz-Institut, Germany)

Monday, 1 December 2008 • 16:00 – 18:00
Location: Grand Salon 4/Street Level

AH07M3: Modeling of WSN II
Chair: Ahmed Kamal, Iowa State University, USA

AH07M3-1: Distortion Analysis for Real-Time Reconstruction of Correlated Data Field in Heterogeneous Sensor Networks
Xiaobo Zhang, Heiping Wang, Ashfaq Khokhar
(University of Illinois at Chicago, USA)

AH07M3-2: Optimal Target Detection with Localized Fusion in Wireless Sensor Networks
Tai-Lin Chin (National Taiwan University of Science and Technology, Taiwan)
Yuhen Hu (University of Wisconsin at Madison, USA)

AH07M3-3: Modeling Mobility-Assisted Data Collection in Wireless Sensor Networks
Souheil Ben Ayed, Mohamed Hamdi, Nouredine Boudriga
(Carthage University, Tunisia)

AH07M3-4: DPRMM: A Novel Coverage-Invariant Mobility Model for Wireless Sensor Networks
Yassine Chetoui, Jalel Ben-Othman (Université de Versailles, France)

AH07M3-5: Optimal Rate Routing in Wireless Sensor Networks with Guaranteed Lifetime
Weiqiang Xu, Jiming Chen (Zhejiang University of Science and Technology, China)
Yan Zhang (Simula Research Laboratory, Norway)
Y. Xiao (Institute of Information Science, Beijing Jiaotong University, China)
Youxian Sun (Zhejiang University of Science and Technology, China)

AH07M3-6: Performance Analysis for Optimal Hybrid Medium Access Control in Wireless Sensor Networks
Hanlin Deng, Je Shen (Shanghai Institute of Microsystem and Information Technology of Chinese Academy of Sciences, China)
Jun Zheng (SITE, University of Ottawa, Canada)
Haitao Liu (Shanghai Institute of Microsystem and Information Technology of Chinese Academy of Sciences, China)
Baoxian Zhang (Chinese Academy of Sciences, China)
Jian Ma (Nokia Research Center, China)

Monday, 1 December 2008 • 16:00 – 18:00
Location: Grand Salon 7/Street Level

AH08M3: Energy Based & Cross-Layer Protocols in MANET
Chair: Jalel Ben-Othman, Université de Versailles, France

AH08M3-1: Energy-Aware Dynamic Topology Control Algorithm for Wireless Ad Hoc Networks
Ye Tian, Min Sheng, Jiandong Li, Yan Zhang, Junliang Yao, Di Tang
(Xidian University, China)

AH08M3-2: Stability of Multiple Receiving Nodes Slotted ALOHA for Wireless Ad Hoc Networks
Jahangir H. Sarker, Hussein T. Mouftah (University of Ottawa, Canada)

AH08M3-3: Network Coding in IEEE 802.11 Wireless LANs with an Enhanced Channel Access Scheme
Antonios Argyriou (Philips Research, USA)

AH08M3-4: Longest Edge Routing on the Spatial Aloha Graph
Sihwan Weber (Orexel University, USA)
Nihar Jindal (University of Minnesota, USA)
Radha Krishna Ganti, Martin Haenggi (University of Notre Dame, USA)

AH08M3-5: Spatially Limited Contention for Multi-Hop Wireless Networks
Fikret Sivrikaya, Albyrayk Sahin (Technical University of Berlin, Germany)
Bülent Yener (RPI, USA)

AH08M3-6: Estimation of the Useful Channel Occupation in 802.11g Ad Hoc Networks
Yassine Chetoui, Jalel Ben-Othman (Université de Versailles, France)
Monday, 1 December 2008 • 16:00 – 18:00
Location: Grand Salon 10/Street Level
AH09M3: Clustering and Cross-Layer Protocols in WSN
Chair: Damla Turgut, University of Central Florida, USA

AH09M3-1: A Cross-Layer Solution for Ultrawideband Based Wireless Video Sensor Networks
L. Campelli (Politecnico di Milano, Italy)
I. F. Akyildiz (Georgia Institute of Technology, Atlanta, USA)
L. Fratta, M. Cesana (Politecnico di Milano, Italy)

Chung-Horng Lung, Chenjuan Zhou (Carleton University, Canada)

AH09M3-3: Optimal Cluster Number Determination for Clustered Wireless Sensor Networks
Wenfeng Li, Lianfeng Shen (Southeast University, China)

AH09M3-4: Cross-Layer Optimization for Energy-Timeliness Tradeoff in TDMA Based Sensor Networks
Jun Luo, Lingge Jiang, Chen He (Shanghai Jiaotong University, China)

AH09M3-5: Asymptotic Performance of Distributed Detection in Clustered Multi-Hop Wireless Sensor Networks
Qingjiang Tian (Qualcomm Inc, USA)
Vibhav Kkapnadak (Purdue University, USA)
Edward J. Coyle (Georgia Institute of Technology, USA)

AH09M3-6: Congestion Avoidance and Fairness in Wireless Sensor Networks
Mohammad Z. Ahmad, Damla Turgut (University of Central Florida, USA)

Monday, 1 December 2008 • 16:00 – 18:00
Location: Grand Salon 3/Street Level
CQ03M3: QoS in Ad Hoc and Cellular Networks
Chair: Harry Skianis, University of the Aegean, Greece

CQ03M3-1: On the Broadcast Packet Reception Rates in One-Dimensional MANETs
Xiaomin Ma (Oral Roberts University, USA)
Xianbo Chen, Hazem H. Refai (Oklahoma University, USA)

CQ03M3-2: Call Dropping and Blocking Probability of the Integrated Ad Hoc Relaying System
Kevin (Nan) Hu, Zhaoxi Xu, Zhiqiang He (Beijing University of Posts and Telecommunications, China)

CQ03M3-3: Outage-Based Rate Maximization in CDMA Wireless Networks
M. D’Angelo (University of L’Aquila, Italy)
C. Fischione (University of California at Berkeley, USA)
M. Butussi (University of Padova, Italy)
A. Pinto, A. Sangiovanni-Vincentelli (University of California at Berkeley, USA)

CQ03M3-4: Node-Based Rate Constraints for QoS Flows in Wireless Ad Hoc Networks
Junmei Qu, Zenghua Zhao, Junmin Zhao, Yantai Shu (Tianjin University, China)

CQ03M3-5: Enhancing QoS Provision by Priority Scheduling with Interference Drop Scheme in Multi-Hop Ad Hoc Networks
Chang-Yi Luo, Nobuyoshi Komuro, Kiyoshi Takahashi, Hiroyuki Kasai, Hiromi Ueda, Toshinori Tsuboi (Tokyo University of Technology, Hachioji, Japan)

CQ03M3-6: Adjustable Transmission Power in Wireless Ad Hoc Networks with Smart Antennas
Fei Huang, Victor Li, Ka-Cheong Leung (University of Hong Kong, Hong Kong)

Monday, 1 December 2008 • 16:00 – 18:00
Location: Grand Salon 12/Street Level
CS02M3: Network Management, Context Awareness and Service Creation
Chair: Marilia Curado, University of Coimbra, Portugal

CS02M3-1: A Real Time Adaptive Scheduling Scheme for Multi-Service Flows in WiMAX Networks
Sahar Ghazal (University of Versailles, France)
Lynda Mokdad (Université de Paris Dauphine, France)
Jalel Ben-Othman (University of Versailles, France)

CS02M3-2: Evaluation of a Rule-Based Approach for Context-Aware Services
Patricia Dockhorn Costa, João Paulo A. Almeida (Federal University of Espirito Santo, Brazil)
Luís Ferreira Pires, Marten van Sinderen (University of Twente, Netherlands)

CS02M3-3: Design and Implementation of Multi-Platform Infrastructure of Extensible Network Functions
Yotaka Kawashima (Graduate University for Advanced Studies, Japan)
Yusheng Ji, Katsumi Maruyama (National Institute of Informatics, Japan)

CS02M3-4: A Scalable Resource Management Mechanism with Feedback Control for Network Systems
Satoshi Imai, Toshio Soumiya, Akira Chugo (Fujitsu Laboratories Ltd., Japan)

CS02M3-5: A Model Driven Approach to Generate Service Creation Environments
A. Achilleos, K. Yang (University of Essex, UK)
N. Georgalas (British Telecom Group, UK)

CS02M3-6: Network Cache System with the Autonomic Recovery Mechanism for Wide-area SAN
Takahiro Miyamoto, Michiaki Hayashi, Hideaki Tanaka (KDDI R&D Laboratories Inc., Japan)

Monday, 1 December 2008 • 16:00 – 18:00
Location: Grand Salon 22/Street Level
CT03M3: Multiterminal Systems
Chair: Sennur Ulukus, University of Maryland, USA

CT03M3-1: Two-Hop Secure Communication Using an Untrusted Relay: A Case for Cooperative Jamming
Xiang He, Aylin Yener (Pennsylvania State University, USA)

CT03M3-2: An Outer Bound to the Rate Equivocation Region of Broadcast Channels with Two Confidential Messages
Jin Xu, Biao Chen (Syracuse University, USA)

CT03M3-3: A New Upper Bound for a Binary Additive Noisy Multiple Access Channel with Feedback
Ravi Tandon, Sennur Ulukus (University of Maryland, USA)

CT03M3-4: Generalized Capacity and Source-Channel Coding for Packet Erasure Channels
Yifan Liang, Andrea J. Goldsmith (Stanford University, USA)
Michelle Effros (California Institute of Technology, USA)

CT03M3-5: MU-MIMO with Channel Statistics-Based Codebooks in Spatially Correlated Channels
Bruno Clerckx, Gil Kim, Sungjin Kim (Samsung Advanced Institute of Technology, Korea)

CT03M3-6: Asymptotic Ergodic Capacity Region and Rate Optimization of a Multiple Access OFDM MIMO Channel with Separately-Correlated Rician Fading
Erwin Riegler (FTW, Austria)
Giorgio Taricco (Politecnico di Torino, Italy)
Monday, 1 December 2008 • 16:00 – 18:00
Location: Grand Salon 24/Street Level
SP06M3: Equalization & Interference Mitigation
Chair: Jinho Choi, Swansea University, UK

SP06M3-1: Time-Varying FIR Equalization for MIMO Transmission over Doubly Selective Channels
Imad Barhumi (United Arab Emirates University, UAE)
Marc Moonen (Katholieke Universiteit Leuven, Belgium)

SP06M3-2: ISI-Free Cochannel Interference Whitening for Bandlimited Fading Channels
Amir Masoud Rabiei, Norman C. Beaulieu (University of Alberta, Canada)

SP06M3-3: Optimal Channel Shortening Equalization for MIMO ISI Channels
Raman Venkataramani, Sundararajan Sankaranarayanan (Seagate Technology, USA)

SP06M3-4: Analysis of A Novel Blind Decision-Feedback Interference Cancellation Framework
Shu Wang (LGE Mobile Research, USA)
James Caffery Jr. (GIRD Systems, Inc, USA)
Byung K. Yi (LGE Mobile Research, USA)

SP06M3-5: H-ARQ based Non-Orthogonal Multiple Access with Successive Interference Cancellation
Jinho Choi (University of Wales Swansea, UK)

Monday, 1 December 2008 • 16:00 – 18:00
Location: Grand Salon 21/Street Level
WC09M3: MIMO Broadcast Channels
Chair: David Love, Purdue University, USA

WC09M3-1: Correlated Fading in Broadcast MIMO Channels: Curse or Blessing?
Bruno Clerckx, Gil Kim, Sungjin Kim (Samsung Advanced Institute of Technology, Korea)

WC09M3-2: Channel Quantization and Feedback Optimization in Multiuser MIMO-OFDM Downlink Systems
Matteo Trivellato, Stefano Tomasin, Nevio Benvenuto (University of Padova, Italy)

WC09M3-3: Multi-User Multi-Input Multi-Output (MU-MIMO) Downlink Beamforming Systems with Limited Feedback
J. C. Mundarath, J. H. Kotecha (Freescale Semiconductors, USA)

WC09M3-4: Performance of Multi-User MIMO Precoding with Limited Feedback over Measured Channels
Florian Kaltenberger (Institut Eurecom, France)
Marios Kountouris (University of Texas at Austin, USA)
David Gesbert, Raymond Knopp (Institut Eurecom, France)

WC09M3-5: User Selection for Multi-Antenna Broadcast Channel with Zero-Forcing Beamforming
Saeed Kaviani, W. A. Krzymien (University of Alberta / TRLabs, Canada)

WC09M3-6: Low Complexity Scheduling for Downlink Multiuser MIMO Systems in Correlated Channels
Shengqian Han, Chenyang Yang (Beihang University, China)

Monday, 1 December 2008 • 16:00 – 18:00
Location: Grand Salon 18/Street Level
WC10M3: Distributed Space-Time Coding
Chair: Neelesh Mehta, Indian Institute of Science, India

WC10M3-1: A Distributed Space-Frequency Coding for Cooperative Communication Systems with Multiple Carrier Frequency Offsets
Huiming Wang (Xi’an Jiaotong University, China)
Xiang-Gen Xia (University of Delaware, USA)
Qinye Yin (Xi’an Jiaotong University, China)

WC10M3-2: Distributed Double-Differential Orthogonal Space-Time Coding for Cooperative Networks
Manav R. Bhatnagar, Are Hjørungnes (University of Oslo, Norway)

WC10M3-3: Perturbation-Based Distributed Beamforming for Wireless Relay Networks
Peter Fertl (Vienna University of Technology, Austria)
Ari Hottinen (Nokia Research Center, Finland)
Gerald Matz (Vienna University of Technology, Austria)

WC10M3-4: High-Throughput Non-Orthogonal Interleaved Random Space-Time Coding for Multi-Source Cooperation
Rong Zhang, Lajos Hanzo (University of Southampton, UK)

WC10M3-5: A Novel Distributed Space-Time Trellis Code for Asynchronous Cooperative Communications under Frequency-Selective Channels
Zhimeng Zhong, Shihua Zhu (Xi’an Jiaotong University, China)
A. Nallanathan (King’s College London, UK)

WC10M3-6: Differential Distributed Space-Frequency Coding for Broadband Non-Regenerative Wireless Relaying Systems
Jing Xu, Shihua Zhu, Zhimeng Zhong (Xi’an Jiaotong University, China)
Monday, 1 December 2008 • 16:00 – 18:00
Location: Grand Ballroom B/Street Level

WC12M3: Ultra-Wideband Communication Systems
Chair: Davide Dardari, University of Bologna, Italy

WC12M3-1: Multiple-Access Performance of Transmitted Reference UWB Communications with M-ary PPM
J. Keith Townsend, Liping Li (NC State University, USA)
Robert J. Ulman (Army Research Office, USA)

WC12M3-2: Transmitted Reference Ultra-Wideband Communications with M-ary PPM
J. Keith Townsend, Liping Li (NC State University, USA)
Robert J. Ulman (Army Research Office, USA)

WC12M3-3: A Multi-Band Timing Estimation and Compensation Scheme for Ultra-Wideband Communications
Debarati Sen, Saswat Chakrabarti, R. V. Raja Kumar
(Indian Institute of Technology, India)

WC12M3-4: A Novel Chip-Level Algorithm for UWB Timing
Jianfeng Hu, Tiejun Lv
(Beijing University of Posts and Telecommunications, China)

WC12M3-5: Optimal Error Rate Performance of Binary TH-UWB Receivers in Multiuser Interference
Iraj Hosseini, Norman C. Beauleiu (University of Alberta, Canada)

WC12M3-6: Passive Ultrawide Bandwidth RFID
Davide Dardari (University of Bologna, Italy)
Raffaele D’Errico (École Nationale Supérieure de Techniques Avancées, France)

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Monday, 1 December 2008 • 16:00 – 18:00
Location: Grand Salon 6/Street Level

WN06M3: Modeling and Performance Analysis
Chair: Vincent Wong, University of British Columbia, Canada

WN06M3-1: Performance Analysis and Evaluation of H.264 Video Streaming over Multi-hop Wireless Networks
Deer Li, Jianping Pan (University of Victoria, Canada)

WN06M3-2: Characterizing the Impact of Partially Overlapped Channel on the Performance of Wireless Networks
Zhenhua Feng, Yaling Yang (Virginia Polytechnic and State University, USA)

WN06M3-3: Performance Analysis in CDMA-Based Cognitive Wireless Networks with Spectrum Underlay
Bin Wang, Dongmei Zhao (McMaster University, Canada)

WN06M3-4: An Aggregation Technique for Network Traffic Described by MMBP Models
Ming Yu (Florida State University, USA)

WN06M3-5: On the Impact of Uplink Interference Coordination When using Multiple Antennas at the Base Station
Gábor Fodor, Chrysostomos Koutsianakis (Ericsson Research, Sweden)

WN06M3-6: Performance Analysis of the Guard Channel Scheme with Self-Similar Call Arrivals in Wireless Mobile Networks
Geyong Min, Xiaolong Jin (University of Bradford, UK)
Speros Ross Velentzas (R&D Department, AdvTec Ltd., UK)

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Poster Sessions
Monday, 1 December 2008 • 16:00 – 18:00
Location: Expo Poster Area 1/EXPO Hall/Second Level

NS11PM3: Computer and Communications Security I
Chair: Noureddine Boudriga, University of Carthage, Tunisia

NS11PM3-1: A Generalized, Mathematical Approach for Exploiting Stack Overflow Vulnerabilities On 2n-bit Architectures
Miguel Hernandez
(US Army Research Laboratory, White Sands Missile Range, USA)

NS11PM3-2: A Grid Trust Model Based On MADM Theory
Yiyu Yu, Junhua Tang, Liming Hao, Sisi Dai, Yue Wu
(Shanghai Jiao Tong University, China)

NS11PM3-3: Classification of Network Traffic via Packet-Level Hidden Markov Models
Alberto Dainotti, Walter de Donato, Antonio Pescapè, Alberto Dainotti
(University of Napoli, Italy)

NS11PM3-4: Inferring Speech Activity from Encrypted Skype Traffic
Yu-Chun Chang (National Taiwan University, Taiwan)
Kuan-Ta Chen (Academia Sinica, Taiwan)
Chen-Chi Wu, Chin-Laung Lei (National Taiwan University, Taiwan)

NS11PM3-5: CRESTBOT: A New Family of Resilient Botnets
Duc T. Ha, Hung Q. Ngo, Madhusudhanan Chandrasekaran
(State University of New York at Buffalo, USA)

NS11PM3-6: Collaborated Camouflaging Mobility for Mobile Privacy
Lei Tang (Rice University, USA)
Susan Vrbsky, Xiaoyan Hong (University of Alabama, USA)
**NS12PM3: Computer and Communications Security II**
Chair: Y. Qian, National Institute of Standards and Technology, USA

**NS12PM3-1: Secure Context Switch for Private Computing on Public Platforms**
Thomas H. Morris, V. S. S. Nair (Southern Methodist University, USA)

**NS12PM3-2: Adaptive Spread-Transform Dither Modulation for Color Image Watermarking**
Lihong Ma, Dong Yu (South China University of Technology, China)
Haoqing Lu (The Institute of Automation, Chinese Academy of Sciences, China)

**NS12PM3-3: Sub-Botnet Coordination Using Tokens in a Switched Network**
Brandon Shirley, Chad D. Mano (Utah State University, USA)

**NS12PM3-4: Support Vector Machines and Random Forests Modeling for Spam Senders Behavior Analysis**
Yuchun Tang, Sven Krasser, Yuanchun He, Weilai Yang, Dmitri Alperovitch (Secure Computing, USA)

**NS12PM3-5: Substantiating Security Threats Using Group Outlier Detection Techniques**
Elnakey Sithirasenan, Vallipuram Muthukumarasamy (Griffith University, Australia)

**NS12PM3-6: Using Spectral Fingerprints to Improve Wireless Network Security**
William C. Suski II, Michael A. Temple, Michael J. Mendenhall, Robert F. Mills (Air Force Institute of Technology, USA)

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**TUESDAY, 2 DECEMBER 2008**

Tuesday, December 2008 • 10:00 – 12:00
Location: Grand Salon 4/Street Level

**AH10T1: Target Tracking & Time Synchronization**
Chair: Shalinee Kishore, Lehigh University, USA

**AH10T1-1: Efficient Tracking of Moving Targets by Passively Handling Traces in Sensor Networks**
Andrei Marculescu, Olivier Powell, Jose Rolim (University of Geneva, Switzerland)

**AH10T1-2: Robust Edge Detection in Wireless Sensor Networks**
Christopher Mallery (Washington State University, USA)
Muralidhar Medidi (Boise State University, USA)

**AH10T1-3: Distributed Target Tracking with Imperfect Binary Sensor Networks**
Zijian Wang, Eyuphan Bulut, Boleslaw K. Szymanski (Rensselaer Polytechnic Institute, USA)

**AH10T1-4: Decentralized Target Tracking Based on a Weighted Extended Kalman Filter for Wireless Sensor Networks**
Chin-Liang Wang, Dong-Shing Wu (National Tsing Hua University, Taiwan)

**AH10T1-5: Second Order Distributed Consensus Time Synchronization Algorithm for Wireless Sensor Networks**
Gang Xiong (Lehigh University, USA)
Shalinee Kishore (Lehigh University, USA)

**AH10T1-6: Utilizing Path Diversity via Asynchronous and Asymmetric Wakeups in Sensor Networks**
Anuj Rawat, Mark Shayman (University of Maryland at College Park, USA)
Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Grand Salon 3/Street Level
CQ04T1: Traffic Control Mechanisms
Chair: Hidenori Nakazato, Waseda University, Japan

CQ04T1-1: Congestion Aware Routing Strategies for DTN-based Interplanetary Networks
Igor Bisio (University of Genoa, Italy)
Tomaso De Cola (German Aerospace Center, Germany)
Mario Marchese (University of Genoa, Italy)

CQ04T1-2: How Different Queuing Systems Affect the Discrete Representation of a Packet Stream
Kristof Sleers, Dagang Li, Emmanuel Van Lil, Antoine Van de Capelle (Katholieke Universiteit Leuven, Belgium)

CQ04T1-3: Queuing Performance of Long-Range Dependent Traffic Regulated by Token-Bucket Policers
Stefano Bregni, Paolo Giacomazzi, Roberto Cioffi (Politecnico di Milano, Italy)

CQ04T1-4: On Traffic Long-Range Dependence at the Output ofSchedulers with Multiple Service Classes
Stefano Bregni, Paolo Giacomazzi, Gabriella Saddemi (Politecnico di Milano, Italy)

CQ04T1-5: SLA-Aware Provisioning for Revenue Maximization in Telecom Mesh Networks
Ming Xia, Marwan Batayneh, Lei Song, Charles U. Martel, Biswanath Mukherjee (University of California at Davis, USA)

CQ04T1-6: Access Control Method based on Sample Monitoring for Volatile Traffic in Interactive TV Services
Hideyuki Koto (KDDI R&D Laboratories Inc., Japan)
Haruo Hoshino (Japan Broadcasting Corporation (NHK), Japan)
Yasuhiko Hiehata, Satoshi Uemura, Hajime Nakamura (KDDI R&D Laboratories Inc., Japan)

Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Grand Salon 10/Street Level
CS03T1: QoS Routing, Management and Network Coding
Chair: Joel Rodrigues, University of Beira Interior, Portugal

CS03T1-1: XML-Driven Framework for Policy-Based QoS Management of IMS Networks
Vitalis G. Ozianyi, Richard Good, Ntanzi Carrilho, Necio Ventura (University of Cape Town, South Africa)

CS03T1-2: HyPath: An Approach for Hybrid On-Path Off-Path End-to-End Signaling
Luís Cordeiro, Vítor Bernardo, M. Curado, E. Monteiro (University of Coimbra, Portugal)

CS03T1-3: An Unequal Error Protection Framework for DVB-H and its Application to Video Streaming
Zhenyu Wu, Jill Boyce, Alan Stein (Thomson Inc., USA)

CS03T1-4: NetPolis: Modeling of Inter-Domain Routing Policies
Kyriaki Levanti, Hyong S. Kim, Tina Wong (Carnegie Mellon University, USA)

CS03T1-5: Smart Spanning Tree Bridging for Carrier Ethernets
Aref Meddeb (ISIT-Com, University of Sousse, Tunisia)

CS03T1-6: Internet Media Streaming Using Network Coding and Path Diversity
Dong Nguyen, Tuan Tran, Tuan Pham, Viet Le (Oregon State University, USA)
Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Grand Salon 19/Street Level

NG04T1: P2P Streaming
Chair: Tsungnan Lin, National Taiwan University, Taiwan

NG04T1-1: Distributed Optimization of Media Flows in Peer-to-Peer Overlay Networks
Antonios Argyriou (Philips Research, USA)
Jacob Chakareski (EPFL, Switzerland)

NG04T1-2: A Partial Forwarding Scheme for Dynamic Window Resizing in Live P2P Streaming Systems
Zhipeng Ouyang, Lisong Xu, Byrav Ramamurthy (University of Nebraska at Lincoln, USA)

NG04T1-3: A Theory-Driven Distribution Algorithm for Peer-to-Peer Real-Time Streaming
Lorenzo Bracciale, Francesca Lo Piccolo, Dario Luzzi, Nicola Blefari-Melazzi, Giuseppe Bianchi, Stefano Salsano (University of Rome “Tor Vergata”, Italy)

NG04T1-4: Understanding P2P-TV Systems Through Real Measurement
Delia Ciullo, Michela Meo, Marco Mellia, Emilio Leonardi (Politecnico di Torino, Italy)

NG04T1-5: Cross-Layer Rate Allocation for Multimedia Applications in Pervasive Computing Environment
Liang Zhou (Shanghai Jiao Tong University, China)
Benoit Geller (Ecole Normale Superieure de Cachan, France)
Anne Wei (Conservation National des Arts et Metiers, France)
Baoyu Zheng, JingWu Cui, Shan Xu (Nanjing University of Posts and Telecommunications, China)

NG04T1-6: Fast RTP Retransmission for IPTV - Implementation and Evaluation
M. J. Prins (University of Twente, Netherlands)
M. Brunner (NEC Europe Ltd., Germany)
G. Karagiannis (University of Twente, Netherlands)
H. Lundqvist, G. Nunzi (NEC Europe Ltd., Germany)

Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Grand Salon 13/Street Level

NS04T1: Authentication II
Chair: Zhenfu Cao, SJTU, China

NS04T1-1: Diameter WebAuth: An AAA-based Identity Management Framework for Web Applications
Niklas Neumann, Xiaoming Fu (University of Goettingen, Germany)

NS04T1-2: New Attestation Based Security Architecture for In-Vehicle Communication
Hisashi Oguma, Akira Yoshioka, Makoto Nishikawa (Toyota InfoTechnology Center Co., Ltd., Japan)
Rie Shigetomi, Akira Otsuka, Hideki Imai (AIST, Japan)

NS04T1-3: A Reliable Network Identification Method Based on Transition Pattern of Payload Length
Shinnosuke Yagi, Yuji Waizumi (Tohoku University, Japan)
Hiroshi Tsunoda (Tohoku Institute of Technology, Japan)
Yoshiaki Nemoto (Tohoku University, Japan)

NS04T1-4: Mutual Authentication Protocol for Low Computational Capacity RFID Systems
Gyozo Gődör, Mátéys Antal, Sándor Imre (Budapest University of Technology and Economics, Hungary)

NS04T1-5: Self-Configurable Authentication Mechanism with Verifiability in Wireless Ad Hoc Networks
Jeong Hyun Yi (Soongsil University, Korea)

NS04T1-6: Cobra: Correlation-based Content Authentication in Wireless Sensor Networks
Peng Zhuang, Yi Shang (University of Missouri, USA)

Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Grand Salon 24/Street Level

ON01T1: Routing and Resource Allocation in Optical Networks
Chair: Dominic Schupke, Nokia Siemens Networks, Germany

ON01T1-1: Dynamic Wavelength Routing in WDM Networks under Multiple Signal Quality Constraints
Weyi Zhang (North Dakota State University, USA)
Guoliang Xue (Arizona State University, USA)
Jian Tang (Montana State University, USA)
Krishnaiyan Thulasiraman (University of Oklahoma, USA)

ON01T1-2: Network Design Method Based on Adaptive Selection of Facility-Adding and Path-Routing Policies under Traffic Growth
Ryuta Sugiyama, Tomonori Takeda, Eiji Ok, Kohei Shiomoto (NIT, Japan)

ON01T1-3: All-Optical Unicast/Multicast Routing in WDM Networks
Javier E. Sierra (Universidad Pontificia Bolivariana, Colombia)
Luis F. Caro, Jose Marzo, Ramon Fabregat (Universidad de Girona, Spain)
Fernando Solano (Warsaw University of Technology, Poland)
Yezid Donoso (Universidad de los Andes, Colombia)

ON01T1-4: A Markov Selection Split Reservation Protocol for WDM Optical Networks without Wavelength Conversion
Malabika Sengupta (Kalyani Government Engineering College, India)
Debashis Saha (Indian Institute of Management, India)
Swapan Kumar Mondal (Kalyani Government Engineering College, India)
Chayanika Bose (Jadavpur University, India)

ON01T1-5: A Hybrid Control Architecture for Connection Management in Transparent WDM Networks
Lei Wang, Jie Zhang, Guanjun Gao, Yongjun Liu, Xiuzhong Chen, Wanyi Gu (Beijing University of Posts and Telecommunications, China)

ON01T1-6: Time-Slotted Optical QV-CDMA Network using a Fair QoS-Based Resource Management Algorithm
Elie Inaty (University of Balamand, Lebanon)
Robert Raad, Paul Fortier (Laval University, Canada)
Hossam Shalaby (University of Alexandria, Egypt)

Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Grand Salon 16/Street Level

SA05T1: Management and Control of Satellite Networks
Chair: Igor Bisio, University of Genoa, Italy

SA05T1-1: Optimizing TCP Performance Through Joint Channel Coding and Power Management in Power Constrained Satellite Networks
Laura Galluccio, Giacomo Morabito, Sergio Palazzo (University of Catania, Italy)
Matteo Berioli, Gianluigi Liva (DLR German Aerospace Center, Germany)

SA05T1-2: Packet Scheduling Over DVB-S2 Through GSE Encapsulation
E. Chaput, A.-L. Beylot (Université de Lorraine - IRIT/CNRS, France)
C. Baudoin (Thales Aléna Space, France)

SA05T1-3: A Power Based Algorithm for Efficient Radio Resource Management Policy in Integrated Terrestrial/HAP MBMS Systems
Giuseppe Araniti, Antonio Iera, Antonella Molinaro (University “Mediterranea" of Reggio Calabria, Italy)

SA05T1-4: Resource Management in Hybrid DVB-RCS and WiFi Networks
Paolo Chini, Giovanni Giambene (University of Siena, Italy)
SA05T1-5: Distributed Load-Aware Routing in LEO Satellite Networks
Evangelos Papapetrou (University of Ioannina, Greece)
Fotini-Niavi Pavlidou (Aristotle University of Thessaloniki, Greece)

SA05T1-6: Minimum Hop Count and Load Balancing Metrics based on Ant Behavior over HAP Mesh
Floriano De Rango, Mauro Tropea, Apollonia Provato, Amilcare-Francesco Santamaria, Salvatore Marano (University of Calabria, Italy)

WC13T1-4: Maximum Likelihood Method for MIMO Mobile-to-Mobile Channel Parameter Estimation
Alena G. Zajic, Gordon L. Stüber (Georgia Institute of Technology, USA)

WC13T1-5: Angular-Domain Channel Model and Channel Estimation for MIMO System
Peter W. C. Chan, Derek C. K. Lee, Frankie K. W. Tam, Chih-Lin I. (ASTRI, Hong Kong)
Roger S. K. Cheng, Vincent K. N. Lau (Hong Kong University of Science and Technology, Hong Kong)

Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Grand Salon 22/Street Level

SP07T1: MIMO 3
Chair: Ludong Wang, Booz Allen Hamilton Inc., USA

SP07T1-1: MIMO Receiver Design in the Presence of Radio Frequency Interference
Kapil Gulati, Aditya Chopra, Robert W. Heath, Jr., Brian L. Evans (University of Texas at Austin, USA)
Keith R. Tinsley, Xintian E. Lin (Intel Corporation, USA)

SP07T1-2: Optimum MIMO-OFDM Receivers with Imperfect Channel State Information
Giulio Coluccia, Giorgio Taricco (Politecnico di Torino, Italy)
Erwin Riegler (FTW, Austria)
Christoph Mecklenbräuker (Vienna University of Technology, Austria)

SP07T1-3: Performance of MIMO Channel Models with Channel State Information at the Transmitter
Leslie Wood, William Hodgkiss (University of California at San Diego, USA)

SP07T1-4: Bit-Flipping Equalizer and ML Search-Space Analysis in Ultra-Wideband MIMO Channels
Toshiaki Koike-Akino (Harvard University, USA)

SP07T1-5: DFE-Based Receiver Implementation for MIMO Systems Employing Hybrid ARQ
Jungwon Lee (Marvell Semiconductor, Inc., USA)
Dimtris Tourmpakaris (University of Patras, Greece)
Edward W. Jang (Stanford University, USA)
Hui-Ling Lou (Marvell Semiconductor, Inc., USA)

SP07T1-6: Direct Location Estimation for MIMO Systems in Multipath Environments
Konstantinos Papakonstantinou, Dirk Slock (Eurecom, France)

Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Grand Salon 21/Street Level

WC14T1: Cooperation with Multiple Antenna Nodes
Chair: Are Hjarungnes, University of Oslo, Norway

WC14T1-1: Generalized Schur Decomposition-Based Two-Way Relaying for Wireless MIMO Systems
Hyun Jong Yang, Joohwan Chun (Korea Advance Institute of Science and Technology, Korea)

WC14T1-2: Opportunistic Relaying for Dual-Hop Wireless MIMO Channels
Wei Zhang (University of New South Wales, Australia)
Khaled Ben Letaief (Hong Kong University of Science & Technology, China)

WC14T1-3: One- and Two-Way Decode-and-Forward Relaying for Wireless Multuser MIMO Networks
Celal Esli, Armin Witteben (ETH, China)

WC14T1-4: Multi-Hop Relaying and MIMO Techniques in Cellular Systems - Throughput Achievable on Rayleigh/Ricean Channels
K. R. Jacobson, W. A. Krzymien (University of Alberta / TR Labs, Canada)

WC14T1-5: Cooperative Multiplexing in Full-Duplex Multi-Antenna Relay Networks
Yijia Fan, H. Vincent Poor (Princeton University, USA)
John S. Thompson (University of Edinburgh, UK)

WC14T1-6: Multiple Antenna assisted Hard versus Soft Decoding-and-Forwarding for Network Coding Aided Relaying Systems
Kyungchun Lee (Samsung Electronics, Korea)
Lajos Hanzo (University of Southampton, UK)

Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Grand Salon 15/Street Level

WC15T1: Coding
Chair: Guosen Yue, NEC Laboratories America, Inc., USA

WC15T1-1: An Improvement on LDPC Coded Queued Codes
Ming Jiang, Chunming Zhao, Enyang Xu, Xiaojun Gong (Southeast University, China)

WC15T1-2: Enhanced Verification-Based Decoding for Packet-Based LDPC Codes over Wireless Channels
Bin Zhu, Defeng Huang (University of Western Australia, Australia)
Sven Nordholm (Western Australian Telecommunications Research Institute, Australia)

WC15T1-3: Performance of Regular Low Density Parity Check Codes Over Hybrid Optical/RF Channels
Hrishikesh Tapse, Deva K. Borah (New Mexico State University, USA)

WC15T1-4: Virtual Channel based LLR Calculation for LDPC Coded SC-FDE System in 60-GHz WPAN
Ming Lei, Senjie Zhang, KuiLin Chen, Ye Huang, Xiaoyun Wu, Leilei Yan (National Institute of Information and Communications Technology, China)
Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Grand Salon 12/Street Level

**WN07T1: Resource Allocation in Wireless Networks**
Chair: Maggie Cheng, Missouri University of Science and Technology, USA

**WN07T1-1: Game-Theoretic Analysis for Power Allocation in Frequency-Selective Unlimited Bands**
Yunjian Xu, Wei Chen, Zhigang Cao (Tsinghua University, China)
Khaled Ben Letaief (Hong Kong Univ. Sci. & Tech., Hong Kong)

**WN07T1-2: Incentive-Rewarding Mechanism for Radio Resource Control Based on Users’ Contributions**
Makoto Yoshino, Ryoichi Shinkuma, Tatsuko Takahashi
(Kyoto University, Japan)

**WN07T1-3: A Cost-Based Approach for Base Station Assignment in Mobile Networks with Limited Backhaul Capacity**
H. Galeana, F. Novillo, R. Ferrús (Universitat Politècnica de Catalunya, Spain)

**WN07T1-4: On Cooperative and Opportunistic Channel Access for Vehicle to Roadside (V2R) Communications**
Ming-Fong Jhang, Wanjiun Liao (National Taiwan University, Taiwan)

**WN07T1-6: Load- and Interference-Aware Channel Assignment for Dual-Radio Mesh Backhauls**
Michelle X. Gong (Intel, USA)
Shiwen Mao (Auburn University, USA)
Scott F. Midkiff (Virginia Tech, USA)
AH26PT1: Ad Hoc Sensor and Mesh Networking II
Chair: Raouf Boutaba, University of Waterloo, Canada

AH26PT1-1: On the Impact of Realism of Mobility Models for Wireless Networks
Hector Flores (Rice University, USA) 
Rudolf Fledl (Rice University, USA / EIF-FR and FFHS Switzerland, Switzerland) 
Stephan Eidenbenz, Nicolas Hengartner (Los Alamos National Laboratory, USA)

AH26PT1-2: Tiling-Based Localization Scheme for Sensor Networks Using a Single Beacon
Hady S. Abdel Salam, Stephan Olariu, Syed R. Rizvi (Old Dominion University, USA)

AH26PT1-3: Multiuser Diversity in Wireless Ad Hoc Networks
Shengshan Cui, Alexander M. Haimovich (New Jersey Institute of Technology, USA)

AH26PT1-4: Design of a QoS-Aware Routing Mechanism for Wireless Multimedia Sensor Networks
Md. Abdul Hamid, Muhammad Mahbub Alam, Choong Seon Hong (Kyung Hee University, Korea)

AH26PT1-5: Secure Location Verification for Vehicular Ad Hoc Networks
Joo-Han Song, Vincent W. S. Wong, Victor C. M. Leung (University of British Columbia, Canada)

AH26PT1-6: Efficient Rate Adaptation with QoS Support for Wireless Networks
Khoder Shamy, Chadi Assi, Jad El-Najjar (Concordia University, Canada)

Tuesday, 2 December 2008 • 10:00 – 12:00
Location: Expo Poster Area 3/EXPO Hall/Second Level

SA12PT1: Selected Areas in Communications
Chair: Mario Marchese, DIST- University of Genoa, Italy

SA12PT1-1: Automatic Determination of Spectral States for Cognitive Radio
Lionel Gueguen, Borna Sayrac (France Telecom Research and Development, France)

SA12PT1-2: Evaluation of the Concatenation of LDPC and RS Codes in Magnetic Recording Channel Using Field Programmable Gate Arrays
Seungjune Jeon, Xinde Hu, B. V. K. Vijaya Kumar (Carnegie Mellon University, USA)

SA12PT1-3: Distributed Detection of Primary Signals in Fading Channels for Cognitive Radio Networks
Praveen Kaligineedi, Vijay K. Bhargava (University of British Columbia, Canada)

SA12PT1-4: Using Object Metadata to Detect and Tolerate Attacks in Object Storage Devices
Yacine Djemaiel (CN&S Research Lab, Tunisia) 
Noureddine Boudriga (University of Carthage, Tunisia)

SA12PT1-5: Impact of Constraints on the Complexity of Dynamic Spectrum Assignment
Chetan N. Mathur, M. A. Haleem, R. Chandramouli, K. P. Subbalakshmi (Stevens Institute of Technology, USA)

SA12PT1-6: Enhancements to IEEE 802.11 MAC to Avoid Packet Collisions
Sudhanshu Gaur (Hitachi America Ltd, USA)

Tuesday, 2 December 2008 • 13:30 – 15:30
Location: Grand Salon 4/Street Level

AH12T2: MAC Protocols in WSN
Chair: Nizar Bouabdallah, INRIA, France

AH12T2-1: A Free Collision and Distributed Slot Assignment Algorithm for Wireless Sensor Networks
Ines Slama, Badii Jouaber, Djamil Zeghlache (Telecom Sudparis, France)

Wooguil Pak, Kyong-Tak Cho (Seoul National University, Korea) 
Jeongjoon Lee (LS Industrial Systems, Korea) 
Saewoong Bahk (Seoul National University, Korea)

Sirisha Medidi (Boise State University, USA)

Yu-Chia Chang, Yen-Ting Chen (National Chiao Tung University, Taiwan) 
Hsin-Yi Shih (National Chiao Tung University, Taiwan) 
Hsin-Yi Shih (National Central University, Taiwan)

AH12T2-5: Duty-Cycle Optimization in Unslotted 802.15.4 Wireless Sensor Networks
Sinem Coleri Ergen (Pirelli & Telecom Italia WSN Lab, USA) 
C. Fischione (University of California at Berkeley, USA) 
Dimitri Marandin (Dresden University of Technology, Germany) 
Alberto Sangiovanni-Vincentelli (University of California at Berkeley, USA)

AH12T2-6: Idle-Slot Recycling in a Collision-Free Real-Time MAC Protocol
Ming Zhang, Ying Jian, Liang Zhang, Shigang Chen (University of Florida, USA)
Tuesday, 2 December 2008 • 13:30 – 15:30
Location: Grand Salon 3/Street Level
**CQ05T2: QoS Control**
Chair: Tutomo Murase, NEC Corporation, Japan

**CQ05T2-1: The Least Reusable Channel Burst Scheduling Discipline**
Gustavo B. Figueiredo, Nelson L. S. da Fonseca
(State University of Campinas, Brazil)

**CQ05T2-2: Advanced Internet Congestion Control Using a Disturbance Observer**
Ryogo Kubo, Junichi Kani, Yukihiro Fujimoto (NTT, Japan)

**CQ05T2-3: TCP-PCP: A Transport Control Protocol based on the Prediction of Congestion Probability over Wired/Wireless Hybrid Networks**
Jin Ye (Guilin University of Electronic Technology, China)
Jianxin Wang, Liang Rong (Central South University, China)
WeiJia Jia (City University of Hong Kong, Hong Kong, China)

**CQ05T2-4: Optimizing a Playout Buffer with Queueing Performance Metrics for One-Way Streaming Video**
Jun-Bae Seo, Victor C. M. Leung (University of British Columbia, Canada)
Hyong-Woo Lee (Korea University, Korea)

**CQ05T2-5: Simple Model Analysis and Performance Tuning of Hybrid TCP Congestion Control**
Jiro Katto, Kazumine Ogura, Yuki Akae, Tomoki Fujikawa, Kazumi Kaneko, Su Zhou (Waseda University, Japan)

**CQ05T2-6: Quality Level Control for Multi-User Sessions in Future Generation Networks**
E. Cerqueira, L. Veloso (University of Coimbra, Portugal)
P. Mendes (INESC Porto, Portugal)
E. Monteiro (University of Coimbra, Portugal)

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Tuesday, 2 December 2008 • 13:30 – 15:30
Location: Grand Salon 10/Street Level
**CS04T2: Distributed Systems and Applications**
Chair: Maode Ma, Nanyang Technological University, Singapore

**CS04T2-1: Constant Delay Queuing for Jitter-Sensitive IPTV Distribution on Home Network**
Kazuhito Kamimura, Haruo Hoshino,Yoshiaki Shishikui
(NHK (Japan Broadcasting Corporation), Japan)

**CS04T2-2: Friendly P2P: Application-Level Congestion Control for Peer-to-Peer Applications**
Yaning Liu, Hongbo Wang, Yu Lin, Shudian Cheng
(Beijing University of Posts And Telecommunications, China)
Gwendal Simon (Institut TELECOM - TELECOM Bretagne, France)

**CS04T2-3: A Distributed System for Parallel Simulations**
Mengxia Zhu, Nanda K. Yadav (Southern Illinois University, USA)

**CS04T2-4: PeerGraph: A Distributed Structure for Peer-to-Peer Streaming**
Ali Saman Tosun, Turgay Korkmaz
(University of Texas at San Antonio, San Antonio, USA)

**CS04T2-5: iGridMedia: Providing Delay-Guaranteed Peer-to-Peer Live Streaming Service on Internet**
Meng Zhang, Lifeng Sun, Shiqiang Yang (Tsinghua University, China)
Xiaolu Xi (Beihang University, China)

**CS04T2-6: Wavelet-Based Traffic Analysis for Identifying Video Streams over Broadband Networks**
Yali Liu (University of California at Davis, USA)
Canhui Ou (University of California at Berkeley, USA)
Zhi Li (AT&T Labs, USA)
Cherita Corbett (Sandia National Laboratories, USA)
Dipak Ghosal, Biswanath Mukherjee (University of California at Davis, USA)

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Tuesday, 2 December 2008 • 13:30 – 15:10
Location: Grand Salon 16/Street Level
**CT06T2: Relay Networks II**
Chair: Aylin Yener, Pennsylvania State University, USA

**CT06T2-1: Exploiting Partial Cooperation for Source and Channel Coding in Sensor Networks**
Osvaldo Simeone (New Jersey Institute of Technology, USA)

**CT06T2-2: The Gateway Channel: Outage Analysis**
Mohamed Abouelseoud, Aria Norsatirina (University of Texas at Dallas, USA)

**CT06T2-3: Space-Time Communication Protocols for N-way Relay Networks**
Tao Cui, Tracey Ho (California Institute of Technology, USA)
Jörg Kiewer (New Mexico State University, USA)

**CT06T2-4: Characterization of Relay Channels Using the Bhattacharyya Parameter**
Josephine P. K. Chu (University of Toronto, Canada)
Andrew W. Eckford (York University, Canada)
Raviraj S. Adve (University of Toronto, Canada)

**CT06T2-5: Parallel Relay Networks with Phase Fading**
Eran Yilmaz, Raymond Knopp, David Gesbert (Institut Eurecom, FR)

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Tuesday, 2 December 2008 • 13:30 – 15:30
Location: Grand Salon 19/Street Level
**NG05T2: High-Speed Packet Processing**
Chair: Michael Welzl, University of Innsbruck, Austria

**NG05T2-1: On the Impact of Caching for High Performance Packet Classifiers**
Harald Widiger, Andreas Tochhorn, Dirk Timmermann
(University of Rostock, Germany)

**NG05T2-2: A Novel Level-Based IPv6 Routing Lookup Algorithm**
Xiaohong Huang (Beijing University of Posts and Telecommunications, China)
Xiaoyu Zhao (France Telecom Research and Development Beijing, China)
Guofeng Zhao (Beijing University of Posts and Telecommunications, China)
Wenjian Jiang (France Telecom Research and Development Beijing, China)
Dongqu Zheng (Beijing University of Posts and Telecommunications, China)
Qiong Sun (The University of Hong Kong, Hong Kong, China)
Yan Ma (Beijing University of Posts and Telecommunications, China)

**NG05T2-3: A Dynamic Binary Hash Scheme for IPv6 Lookup**
Qiong Sun (The University of Hong Kong, Hong Kong)
Xiaohong Huang, Xiaoyu Zhou, Yan Ma
(China University of Posts and Telecommunications, China)

**NG05T2-4: Pipelined Implementation of TCAM-Based Search Engines in High-Performance IP Routers**
Hui Yu (Shanghai Jiao Tong University, China)
Jing Chen (University of Texas at Dallas, USA)
Jianping Wang (City University of Hong Kong, Hong Kong)
S. Q. Zheng (University of Texas at Dallas, USA)

**NG05T2-5: A Throughput-Efficient Packet Classifier with n Bloom filters**
Heeyeol Yu, Rabi Mahapatra (Texas A&M University, USA)

**NG05T2-6: Multi-Way Pipelining for Power-Efficient IP Lookup**
Weirong Jiang, Viktor K. Prasanna (University of Southern California, USA)

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Tuesday, 2 December 2008 • 13:30 – 15:30
Location: Grand Salon 13/Street Level
**NS05T2-1: A Reputation-Based Metric for Secure Routing in Wireless Mesh Networks**
Francesco Oliviero, Simon Pietro Romano (University of Napoli Federico II, Italy)
ON02T2-2: An Approach to Information Hiding in Low Bit-Rate Speech Stream
Bo Xiao, Yongfeng Huang (Tsinghua University, China)
Shanyu Tang (London Metropolitan University, UK)

ON02T2-3: A Secure VANET MAC Protocol for DSRC Applications
Yi Qian (National Institute of Standards and Technology, USA)
Kejie Lu (University of Puerto Rico at Mayaguez, Puerto Rico)
Nader Moayeri (National Institute of Standards and Technology, USA)

ON02T2-4: AWF-NA: A Complete Solution for Tampered Packet Detection in VANETs
Zhengming Li, Chunxiao Chigan (Michigan Tech, USA)
Danniel Wong (Malaysia University of Science and Technology, Malaysia)

ON02T2-5: Security and Pseudo-Anonymity with a Cluster-Based approach for MANET
Abderrahim Benslimane (University of Avignon, France)

ON02T2-6: A Novel Coalitional Game Model for Security Issues in Wireless Networks
Xiaoqi Li, Michael R. Lyu (Chinese University of Hong Kong, Hong Kong)

NS05T2-2: Metro, Access and Burst-Switched Optical Networks
Chair: Tetsuya Yokotani, Mitsubishi Electric Corporation, Japan

ON02T2-1: Broadband Data Transport Protocol Designed for Ethernet Services in Metro Ethernet Networks
Claudio Estevez, Gee-Kung Chang (Georgia Institute of Technology, USA)
Georgios Ellinas (University of Cyprus, Cyprus)
Gee-Kung Chang (Georgia Institute of Technology, USA)

ON02T2-2: Supporting Private Networking with Wavelength Spatial-Reuse over WDM EPONs
Hui-Tang Lin, Wang-Rong Chang, Chai-Lin Lai, Sheng-Jhe Hong (National Cheng Kung University, Taiwan)

ON02T2-3: WONDER: A PON over a Folded Bus
Andrea Bianco, Davide Cuda (University of Politecnico di Torino, Italy)
Jorge Finocchietto (Universidad Nacional de Cordoba, Argentina)
Fabio Neri, Marco Valcarenghi (University of Politecnico di Torino, Italy)

ON02T2-4: A Reinforcement Learning-Based Deflection Routing Scheme for Buffer-less OBS Networks
Abdelouab Belbekkouche, Abdelhakim Hafid, Michel Gendreau (University of Montreal, Canada)

ON02T2-5: Dual-Fiber-Link OBS for Metropolitan Area Networks: Modelling, Analysis and Performance Evaluation
Chi Yuan, Zhengbin Li, Anshi Xu (Peking University, China)
ON02T2-6: Virtual Burst Assembly – A Solution to Out-of-Sequence Delivery in Optical Burst Switching Networks
Lei Wang, Yuhua Chen, Mona Thaker (University of Houston, USA)

SA06T2: Cognitive Radio and Networks (Detection/Spectrum Sensing)
Chair: Wei Zhang, University of New South Wales, Australia

SA06T2-1: Quickest Detection in Cognitive Radio: A Sequential Change Detection Framework
Lifeng Lai, Yijia Fan, H. Vincent Poor (Princeton University, USA)

SA06T2-2: Blind Multi-Sources Detection and Localization for Cognitive Radio
O. Duval (Ecole De Technologie Superieure, Canada)
A. Punoni (Ecole De Technologie Superieure, Canada)
F. Gagnon (Ecole De Technologie Superieure, Canada)
C. Despins (PROMPT-Quebec, Canada)

SA06T2-3: Robust Energy Detection Based on Bayesian Estimation for Cognitive Radio
Junyang Shen, Yuanan Liu, Siyang Liu, Jinchun Gao, Gang Xie (Beijing University of Posts and Telecommunications, China)
Caixia Chi (Bell Labs, Alcatel-Lucent, China)

SA06T2-4: Analysis of Equal Gain Combining in Energy Detection for Cognitive Radio over Nakagami Channels
Nandana Rajatheva, Sanjeewa P. Herath (Asian Institute of Technology, Thailand)

SA06T2-5: Spectrum Sensing over SIMO Multi-Path Fading Channels based on Energy Detection
Santiago Rodriguez-Parera, Valerie Ramon, Andre Bourdoux (Inter-university Micro-Electronics Center, Belgium)
Francois Horlin (Universite Libre de Bruxelles, Belgium)
R. Lauwereins (Inter-university Micro-Electronics Center, Belgium)

SA06T2-6: Modeling and Comparison of Primary User Detection Techniques in Cognitive Radio Networks
Tsai-Wei Wu, You-En Lin, Hung-Yun Hsieh (National Taiwan University, Taiwan)

Tuesday, 2 December 2008 • 13:30 – 15:30
Location: Grand Salon 24/Street Level

ON02T2: Metro, Access and Burst-Switched Optical Networks
Chair: Tetsuya Yokotani, Mitsubishi Electric Corporation, Japan

ON02T2-1: Broadband Data Transport Protocol Designed for Ethernet Services in Metro Ethernet Networks
Claudio Estevez, Gee-Kung Chang (Georgia Institute of Technology, USA)
Georgios Ellinas (University of Cyprus, Cyprus)
Gee-Kung Chang (Georgia Institute of Technology, USA)

ON02T2-2: Supporting Private Networking with Wavelength Spatial-Reuse over WDM EPONs
Hui-Tang Lin, Wang-Rong Chang, Chai-Lin Lai, Sheng-Jhe Hong (National Cheng Kung University, Taiwan)

ON02T2-3: WONDER: A PON over a Folded Bus
Andrea Bianco, Davide Cuda (University of Politecnico di Torino, Italy)
Jorge Finocchietto (Universidad Nacional de Cordoba, Argentina)
Fabio Neri, Marco Valcarenghi (University of Politecnico di Torino, Italy)

ON02T2-4: A Reinforcement Learning-Based Deflection Routing Scheme for Buffer-less OBS Networks
Abdelouab Belbekkouche, Abdelhakim Hafid, Michel Gendreau (University of Montreal, Canada)

ON02T2-5: Dual-Fiber-Link OBS for Metropolitan Area Networks: Modelling, Analysis and Performance Evaluation
Chi Yuan, Zhengbin Li, Anshi Xu (Peking University, China)
ON02T2-6: Virtual Burst Assembly – A Solution to Out-of-Sequence Delivery in Optical Burst Switching Networks
Lei Wang, Yuhua Chen, Mona Thaker (University of Houston, USA)

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Chair: Wei Zhang, University of New South Wales, Australia

SA06T2-1: Quickest Detection in Cognitive Radio: A Sequential Change Detection Framework
Lifeng Lai, Yijia Fan, H. Vincent Poor (Princeton University, USA)

SA06T2-2: Blind Multi-Sources Detection and Localization for Cognitive Radio
O. Duval (Ecole De Technologie Superieure, Canada)
A. Punoni (Ecole De Technologie Superieure, Canada)
F. Gagnon (Ecole De Technologie Superieure, Canada)
C. Despins (PROMPT-Quebec, Canada)

SA06T2-3: Robust Energy Detection Based on Bayesian Estimation for Cognitive Radio
Junyang Shen, Yuanan Liu, Siyang Liu, Jinchun Gao, Gang Xie (Beijing University of Posts and Telecommunications, China)
Caixia Chi (Bell Labs, Alcatel-Lucent, China)

SA06T2-4: Analysis of Equal Gain Combining in Energy Detection for Cognitive Radio over Nakagami Channels
Nandana Rajatheva, Sanjeewa P. Herath (Asian Institute of Technology, Thailand)

SA06T2-5: Spectrum Sensing over SIMO Multi-Path Fading Channels based on Energy Detection
Santiago Rodriguez-Parera, Valerie Ramon, Andre Bourdoux (Inter-university Micro-Electronics Center, Belgium)
Francois Horlin (Universite Libre de Bruxelles, Belgium)
R. Lauwereins (Inter-university Micro-Electronics Center, Belgium)

SA06T2-6: Modeling and Comparison of Primary User Detection Techniques in Cognitive Radio Networks
Tsai-Wei Wu, You-En Lin, Hung-Yun Hsieh (National Taiwan University, Taiwan)

Tuesday, 2 December 2008 • 13:30 – 15:30
Location: Grand Salon 22/Street Level

SP08T2: Space-Time Coding & Processing
Chair: Wei Zhang, University of New South Wales, Australia

SP08T2-1: Using Higher Order Cyclostionarity to Identify Space-Time Block Codes
Marcus R. DeYoung, Brian L. Evans, Robert W. Heath Jr. (University of Texas at Austin, USA)

SP08T2-2: Performance Analysis of Space-Time Block Coding with Co-Channel MIMO Interferers
Yongzhao Li (Xidian University, China)
Leonard J. Cimini, Jr. (University of Delaware, USA)
Nageen Himayat (Intel Corporation, USA)

SP08T2-3: Adaptive Codebooks for Efficient Feedback Reduction in Cooperative Antenna Systems
Jee Hyun Kim, Wolfgang Zirwas (Nokia Siemens Networks GmbH & Co. KG, Germany)
Martin Haardt (Ilmenau University of Technology, Germany)

SP08T2-4: Analysis and Design of Distributed Space-Time Trellis Code with Asynchronous Amplify-and-Foreward Relaying
Zhiming Zhong, Shihua Zhu, Gangming Lv, Jing Xu (Xi’an Jiaotong University, China)

SP08T2-5: High-Rate Groupwise STBC Using Low-Complexity SIC Based Receiver
Xuan Huan Nguyen, Jinho Choi (University of Wales Swansea, UK)

SP08T2-6: Easily Invertible Tight Bounds for Diversity Reception
Wesley M. Gifford, Moe Z. Win (Massachusetts Institute of Technology, USA)
Marcus R. DeYoung, Brian L. Evans, Robert W. Heath Jr. (University of Texas at Austin, USA)
Tuesday, 2 December 2008 • 13:30 – 15:30
Location: Grand Ballroom B/Street Level

**SS01T2: History of Communications**

Chair: Jacob Baal-Schem, Tel-Aviv University, Israel

**SS01T2-1: Invited Lecture: A General History of OFDM**
Steve Weinstein (CTTC Group, USA)

**SS01T2-2: How Reginald Fessenden Put Wireless on the Right Technological Footing**
Ira Brodsky (Datacomm Research Company, USA)

**SS01T2-3: Early Spread-Spectrum and Automatic Equalization — NOMAC and Rake**
Paul E. Green, Jr. (Retired, Chapel Hill, USA)

**SS01T2-4: TAT-1 and Deregulation**
Jeremiah Hayes (Concordia University, Canada)

**SS01T2-5: The History of Orthogonal Frequency Division Multiplexing**
Nick LaSorte, W. Justin Barnes, Hazem H. Refai (University of Oklahoma, USA)

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**Tuesday, 2 December 2008 • 13:30 – 15:30**
**Location: Grand Salon 21/Street Level**

**WC17T2: MIMO Detection I**
Chair: Costas Georgiades, Texas A&M University, USA

**WC17T2-1: An Efficient Tree Search for Reduced Complexity Sphere Decoding**
Luay Azzam, Ender Ayanoglu (University of California at Irvine, USA)

**WC17T2-2: K-Best Sphere Detection for the Sphere Packing Modulation Aided SDMA/OFDM Uplink**
Li Wang, O. Alamri, Lajos Hanzo (University of Southampton, UK)

**WC17T2-3: MMSE Based Preprocessing and its Variations for Closest Point Search**
In Sook Park, Joohwan Chun (KAIST, Korea)

**WC17T2-4: A Maximum-Likelihood Decoder with a New Reduction Strategy for MIMO Channel Systems**
Xiaohua Yang, Xiao-Wen Chang (McGill University, Canada)

**WC17T2-5: Effects of Channel Estimation Errors on V-BLAST Detection**
Wei Peng, Fumiuyi Adachi (Tohoku University, Japan)
Shaodan Ma (University of Hong Kong, China)
Jiangzhou Wang (University of Kent, UK)
Tungsang Ng (University of Hong Kong, China)

**WC17T2-6: Enhanced Soft Interference Cancellation Algorithm for V-BLAST Systems**
Zhendong Luo (China Academy of Telecommunication Research of MIL, China)
Fan Yang (Beijing University of Posts and Telecommunications, China)

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**Tuesday, 2 December 2008 • 13:30 – 15:30**
**Location: Grand Salon 18/Street Level**

**WC18T2: Resource Allocation in Cooperative Systems**
Chair: Onur Kaya, Isik University, Turkey

**WC18T2-1: On Optimal Power Allocation for Source-Orthogonal Relay-Nonorthogonal Amplify-and-Forward Relaying**
Reza Nikjah, Norman C. Beaulieu (University of Alberta, Canada)

**WC18T2-2: A Fair Subcarrier Allocation Algorithm for Cooperative Multiuser OFDM Systems with Grouped Users**
Hamed Rasouli, Sanam Sadir, Alagan Anpalagan (Ryerson University, Canada)

Masato Saito (Nara Institute of Science and Technology, Japan)
Chandra R. N. Athaudage, Jamie Evans (University of Melbourne, Australia)

**WC18T2-4: Dynamic Subchannel and Power Allocation in OFDMA-Based DF Cooperative Relay Networks**
Hongxing Li, Hui Yu, Han-Wen Luo, Jia Guo, Chisheng Li (Shanghai Jiaotong University, China)

**WC18T2-5: Optimal Resource Allocation for Two-Way Relay-Assisted OFDMA**
Kommate Jitwanichphlabo, Rui Zhang, Ying-Chang Liang (Institute for Infocomm Research, Singapore)

**WC18T2-6: Power Allocation in Gaussian Interference Relay Channels via Game Theory**
Yu Shi, Jia Heng Wang (Hong Kong University Science & Technology, Hong Kong)
Wen Lan Huang (Nokia Research Center, China)
Khaled Letaief (Hong Kong University Science & Technology, Hong Kong)

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**Tuesday, 2 December 2008 • 13:30 – 15:30**
**Location: Grand Salon 15/Street Level**

**WC19T2: Scheduling**
Chair: Pin-Han Ho, University of Waterloo, Canada

Hongfei Du, Haiyang Wang (Simon Fraser University, Canada)
Ke Xu (Tsinghua University, China)

**WC19T2-2: Routing with Probabilistic Delay Guarantees in Wireless Ad Hoc Networks**
Matthew Brand (Mitsubishi Electric Research Laboratory, USA)
Peter Maymounkov (MIT, USA)
Andreas F. Molisch (Mitsubishi Electric Research Laboratory, USA)

**WC19T2-3: Optimized Opportunistic Multicast Scheduling Over Cellular Networks**
Tze-Ping Law (University of Southern California, USA)
Man-On Pun (Princeton University, USA)
C.-C. Jay Kuo (University of Southern California, USA)

**WC19T2-4: Cooperative Fractional Frequency Reuse Based on Partial Connectivity Among Clients**
Stefan Geirhofer (Cornell University, USA)
Özgür Oyman (Intel Corporation, USA)

**WC19T2-5: Queuing Analysis for Multiuser Downlink Channel: Throughput Regions and Exponential Backlog Bounds**
Gerhard Wunder, Chan Zhou (Mobile Communication Lab for Mobile Communications MCI, HHI, Germany)

**WC19T2-6: A Distributed Resource Control for Fairness in OFDMA Systems: English-Auction Game with Imperfect Information**
Wonjong Noh (University of California at Irvine, USA)

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**Tuesday, 2 December 2008 • 13:30 – 15:30**
**Location: Grand Salon 12/Street Level**

**WC20T2: Wireless Channels**
Chair: Erik Perrins, University of Kansas, USA

**WC20T2-1: On the Effect of Antenna Height on the Characterization of the Indoor UWB Channel**
Umesh K. Shukla, Haris I. Volos, R. Michael Buehner (Virginia Tech, USA)

**WC20T2-2: Characterizing Indoor Wireless Channels via Ray Tracing, and Validation via Measurements**
Aliye Özge Kaya, Larry Greenstein, Wade Trappe (Rutgers University, USA)
WC20T2-3: A Novel Spatial Autocorrelation Model of Shadow Fading in Urban Macro Environments  
Yu Zhang, Jianhua Zhang, Di Dong, Xin Nie, Guangyi Liu, Ping Zhang  
(University of Posts and Telecommunications, China)

WC20T2-4: Doppler Spread and Coherence Time of Rural and Highway Vehicle-to-Vehicle Channels at 5.9 GHz  
Lin Cheng (Trinity College, USA)  
Benjamin Henty (Johns Hopkins APL, USA)  
Daniel D. Stancil (Carnegie Mellon University, USA)  
Fan Bai (General Motors, USA)

WC20T2-5: On the Level Crossing Rate and Average Fade Duration of Composite Multipath/Shadowing Channels  
Imene Trigui (INRS - Centre Energie, Materiaux et Telecommunications, Canada)  
Amine Laourine (Cornell University, USA)  
Sofiene Affes (INRS - Centre Energie, Materiaux et Telecommunications, Canada)  
Alex Stéphenne (Ericsson, Montreal, Canada)

WC20T2-6: Delay Analysis of Wireless Nakagami Fading Channels  
Jared Burdin, Randall Landry (The MITRE Corporation, USA)

WN10T2-1: On Rate Adaptation for Video Multicast with Layered Coding Over Multirate Wireless Networks  
Xi Zhang, Qinghe Du (Texas A&M University, USA)

WN10T2-2: Pricing and QoS in Wireless Random Access Networks  
Pavan Nuggehali (Vanu, Inc., USA)  
Jennifer Price (University of Colorado at Colorado Springs, USA)  
Tara Javidi (University of California at San Diego, USA)

WN10T2-3: On Spectrum Sharing in Cooperative Multiple Access Networks  
Amr El-Sherif (University of Maryland, USA)  
Ahmed K. Sadek (Qualcomm Inc., USA)  
K. J. Ray Liu (University of Maryland, USA)

WN10T2-4: Evaluation of Radio Access Congestion in Heterogeneous Wireless Access Networks  
X. Gelabert, J. Pérez-Romero, O. Sallent, R. Agustí  
(Universitat Politècnica de Catalunya, Spain)

WN10T2-5: Improving Perceived Streaming-Video Quality in High Speed Downlink Packet Access  
Kamal Deep Singh, Gerardo Rubinó (IRISA/INRIA Rennes, France)  
Julio Orozco (Orange Labs, France)  
David Ros (Institut TELECOM/TELECOM Bretagne, France)

Isabella Ceruti, Piero Castoldi (Scuola Superiore Sant’Anna, Italy)  
Filippo Meucci, Laura Pierucci (University of Florence, Italy)

Poster Sessions  
Tuesday, 2 December 2008 • 13:30 – 15:30  
Location: Expo Poster Area 1/EXPO Hall/Second Level

AH27PT2: Ad Hoc Sensor and Mesh Networking III  
Chair: Azzedine Boukerche, University of Ottawa, Canada

AH27PT2-1: Decentralized Multi-Level Duty Cycling in Sensor Networks  
Sharief M. A. Oteafy (Queen’s University, Canada)  
Hosam M. Aboelfotoh (Kuwait University, Kuwait)  
Sharief M. A. Oteafy (Queen’s University, Canada)

AH27PT2-2: Proxy-Based TCP with Adaptive Rate Control and Intentional Flow Control in Ad Hoc Networks  
Nobuhiro Itoh, Miki Yamamoto (Kansai University, Japan)

AH27PT2-3: Adaptive Bandwidth Provisioning in IEEE 802.16 Broadband Wireless Networks  
Najah Abu Ali, Mohammad Hayajneh (UAE University, UAE)  
Hossam S. Hassanein (Queen’s University, Canada)

AH27PT2-4: MACA-U: A Media Access Protocol for Underwater Acoustic Networks  
Hai-Heng Ng, Wee-Seng Soh, Meulot Motani  
(National University of Singapore, Singapore)

AH27PT2-5: Improving Localization of Mobile Agents: The Approach of Averaged Dirty Templates in IR-UWB Ranging  
Romano Fantacci, Francesco Chiti, Simone Morosi, Lorenzo Niccolai  
(University of Firenze, Italy)

AH27PT2-6: A Multi-Channel Token Ring Protocol for Inter-Vehicle Communications  
Yuanguo Bi (Northeastern University, Canada)  
Kuang-Hao (Stanley) Liu (National Cheng Kung University, Taiwan)  
Xueqin Shen (University of Waterloo, Canada)  
Hai Zhao (Northeastern University, China)
AH28PT2: Ad Hoc Sensor and Mesh Networking IV
Chair: Nirwan Ansari, NJIT, USA

AH28PT2-1: Link Gain Matrix Estimation in Distributed Wireless Networks
Jing Lei, Larry J. Greenstein, Roy Yates (WINLAB, Rutgers University, USA)

AH28PT2-2: Supporting Legacy Devices in Multi-Hop Ad Hoc Wireless Networks
A. S. Krishnakumar, P. Krishnan, Shalini Yajnik (Avaya Labs, USA)

AH28PT2-3: Burst Mode Two-Way Ranging with Cramér-Rao Bound Noise Performance
Steven Lanzisera, Kristofer S. J. Pister (University of California at Berkeley, USA)

AH28PT2-4: Investigating the Performance Impact of Shared Host Capacity in Ad Hoc Networks
Yan He, Ikhlas Ajab (University of Louisiana at Lafayette, USA)
Van K. Nguyen, (Defence Science and Technology Organisation, Australia)
Dmitri Perkins (University of Louisiana at Lafayette, USA)

AH28PT2-5: Localization Error-Resilient Geographic Routing for Wireless Sensor Networks
Stefano Basagni (Northeastern University, USA)
Michele Nati, Chiara Petrioli (University of Rome La Sapienza, Italy)

AH28PT2-6: Modified Beacon-Enabled IEEE 802.15.4 MAC for Lower Latency
G. Bhatti (Mitsubishi Electric Research Labs, USA)
A. Mehta (Southern Illinois University Carbondale, USA)
Z. Sahinoglu, J. Zhang (Mitsubishi Electric Research Labs, USA)
R. Viswanathan (Southern Illinois University Carbondale, USA)

AH28PT2-7: Rate Adaptive Binary Erasure Quantization with Dual Fountain Codes
Osameh M. Al-Kofahi, Ahmed E. Kamal (Iowa State University, USA)

AH14T3: Mobility Modeling in MANET
Chair: Wei Li, Texas Southern University, USA

AH14T3-1: A Model for Cooperative Mobility and Budgeted QoS in MANETs with Heterogeneous Autonomy Requirements
G. Brahimi (Western Michigan University, USA)
B. Khan (John Jay College, City University of New York, USA)
M. Guizani, A. Al-Fuqaha (Western Michigan University, USA)

AH14T3-2: Impact of Random Mobility on the Inhomogeneity of Spatial Distributions
Michael Gyarmati, Udo Schilcher, Günther Brandner, Christian Bettstetter
(University of Klagenfurt, Austria)
Yun Won Chung, Young Han Kim (Soongsil University, Korea)

AH14T3-3: Optimal Location Updates in Mobile Ad Hoc Networks: a Separable Cost Case
Zhenzhou Ye, Alhussein A. Abouzeid (Rensselaer Polytechnic Institute, USA)

AH14T3-4: Guaranteed Boxed Localization in MANETs by Interval Analysis and Constraints Propagation Techniques
Farah Mourad, Hichem Snoussi (University of Technology of Troyes, France)
Fahed Abdallah (University of Technology of Compiegne, France)
Cédric Richard (University of Technology of Troyes, France)

AH14T3-5: Influence of Node Location Distributions on the Structure of Ad Hoc and Mesh Networks
Janne Riihijärvi, Marina Petrova, Petri Mäihönen
(RWTH Aachen University, Germany)

AH14T3-6: A Mobility Support and Load Reducing Partner Selection Criterion in Cooperative Communication
Yeejung Kim, Sujung Kim, Taehoon Kim, Youngnam Han
(Information and Communications University, Korea)
Tuesday, 2 December 2008 • 16:00 – 18:00
Location: Grand Salon 3/Street Level

CQ06T3: Resource Control for Streaming Services
Chair: Tetsuya Yokotani, Mitsubishi Electric Corporation, Japan

CQ06T3-1: Adaptive Rate Control with Dynamic FEC for Real-Time DV Streaming
Kazuhisa Matsuzono, Kazunori Sugiura, Hitoshi Asaeda (Keio University, Japan)

CQ06T3-2: Adaptive Rate Control for Aggregated VoIP Traffic
Fariza Sabrina, Jean-Marc Valin (CSIRO, Australia)

CQ06T3-3: Multi-Path Aggregate Flow Control for Real-Time Traffic Engineering
Jung-Hoon Yun, Anseok Lee, Song Chong (KAIST, Korea)

CQ06T3-4: User-Classified Dynamic Resource Allocation for Real-Time VBR Video Transmission Based on Time-Domain Traffic Prediction
Zhiyuan Xu, Hui Li, Yueming Lu, Yuefeng Ji (Beijing University of Posts and Telecommunications, China)

CQ06T3-5: The Impact of SCTP on SIP Server Scalability and Performance
Kumiko Ono, Henning Schulzrinne (Columbia University, USA)

CQ06T3-6: Enhancement of QoE in Audio-Video IP Transmission by Utilizing Tradeoff between Spatial and Temporal Quality for Video Packet Loss
Shuji Tasaka, Hikaru Yoshimi (Nagoya Institute of Technology, Japan)

Tuesday, 2 December 2008 • 16:00 – 18:00
Location: Grand Salon 10/Street Level

CS05T3: Media Streaming, Multimedia Delivery Systems and Protocol Technologies
Chair: Antonios Argyriou, Philips Research, USA

CS05T3-1: An Empirical Study of Flash Crowd Dynamics in a P2P-based Live Video Streaming System
Bo Li, Gabriel Y. Keung, Susu Xie, Fangming Liu, Ye Sun (Hong Kong University of Science and Technology, Hong Kong)

CS05T3-2: Peer-to-Peer SIP Features to Eliminate a SIP Sign-Up Process
Toshiya Okabe (NEC Corporation, Japan)

CS05T3-3: Reliable and Scalable DHT-Based SIP Server Farm
Lichun Li, Chang Chunhong, Yao Wang, Ji Yang (Beijing University of Posts and Telecommunications, China)

CS05T3-4: Content-Aware Distortion-Fair Video Streaming in Networks
Zhu Li, Hong Kong Polytechnic University, Hong Kong

CS05T3-5: Efficient VoD Streaming for Broadband Access Networks
Ying Li, Mung Chiang, A. Robert Calderbank (Princeton University, USA)

CS05T3-6: Content and Overlay-Aware Transmission Scheduling in Peer-to-Peer Streaming
Jiaming Li, Chai Kiat Yeo, Bu Sung Lee (Nanyang Technological University, Singapore)

Tuesday, 2 December 2008 • 16:00 – 18:00
Location: Grand Salon 16/Street Level

CT07T3: MIMO Systems
Chair: Giulio Colavolpe, University of Parma, Italy

CT07T3-1: Preceded BICM Design for MIMO Transmit Beamforming and Associated Low-complexity Algebraic Receivers
Nicolas Gresset, Mourad Khanfouci (Mitsubishi Electric ITE TCL, France)

CT07T3-2: On Optimum End-to-End Distortion of Spatially Correlated MIMO Systems
Jinhui Chen, Dirk T. M. Slock (Eurecom, France)

CT07T3-3: The PDF of the lth Largest Eigenvalue of Central Wishart Matrices and its Application to the Performance Analysis of MIMO Systems
Prathapasinghe Dharmawansa, Matthew R. McKay (University of Alberta, Canada)

CT07T3-4: On the Eigenvalue Distribution of Correlated MIMO Channels by Character Expansion of Groups
Kumiko Ono, Henning Schulzrinne (Columbia University, USA)

CT07T3-5: Exact Minimum Eigenvalue Distribution of a Correlated Complex Non-Central Wishart Matrix
Pratapasinghe Dharmawansa, Matthew R. McKay (Hong Kong University of Science and Technology, Hong Kong)

CT07T3-6: A Novel Fast Semi-Analytical Performance Prediction Method for Iterative MMSE-IC Multiuser MIMO Joint Decoding
Raphaël Visoz (Orange Labs, France)

Tuesday, 2 December 2008 • 16:00 – 18:00
Location: Grand Salon 19/Street Level

NG06T3: Traffic Management
Chair: Jing Wu, Communications Research Centre Canada, Canada

NG06T3-1: Alternative Approaches of Capacity Assignment for Delay Bounded Traffic
Xian Liu (University of Arkansas at Little Rock, USA)

NG06T3-2: Channel and Delay Margin Aware Bandwidth Allocation for Future Generation Wireless Networks
Dzung Ho-Quang, Mohamed Ashour, Tho Le-Ngoc (McGill University, Canada)

NG06T3-3: Scalable Resource Provisioning for Multi-user Communications in Next Generation Networks
Augusto Neto (Institute of Telecommunications of Aveiro, Portugal)

NG06T3-4: An Asymptotically Minimal Node-degree Topology for Load-Balanced Architectures
Zhenhua LIU (Tsinghua University, China)

NG06T3-5: Network Resource Allocation for Competing Multiple Description Transmissions
Ying Li (Princeton University, Princeton, USA)

NG06T3-6: On Robust Traffic Engineering in Transport Networks
Ali Tizghadam, Alberto Leon-Garcia (University of Toronto, Canada)
**ON03T3-4: Performance Model of Deflection-Routed Multi-Slot Batch-Transfer Networks**
C.Y. Li, P.K. A. Wai (Hong Kong Polytechnic University, Hong Kong)
Victor O. K. Li (University of Hong Kong, China)

**ON03T3-5: Crossstalk-Free Widesense Nonblocking Multicast Photonic Switching Networks**
Hung Q. Ngo, Thanh-Nhan Nguyen, Duc T. Ha
(State University of New York at Buffalo, USA)

**ON03T3-6: Nonblocking Multicast-capable Optical Cross Connects based on the 4-stage Multicast Network**
Fangfang Yan, Weisheng Hu, Weiqiang Sun, Guo Wei, Yaohui Jin
(Shanghai Jiaotong University, China)
WC21T3-2: Low-Complexity Maximum Likelihood Detection of Orthogonal Space-Time Block Codes
Luay Azzam, Ender Ayanoglu (University of California at Irvine, USA)

WC21T3-3: Novel Sort-Free Detector with Modified Real-Valued Decomposition (M-RVD) Ordering in MIMO Systems
Kiarash Amiri, Joseph R. Cavallaro (Rice University, USA)

WC21T3-4: QRD-QLD Searching Based Sphere Detection for Emerging Quasi-Orthogonal Space-Time Block Codes
Luay Azzam, Ender Ayanoglu (University of California at Irvine, USA)

WC21T3-5: Cooperative OFDM with Amplify-and-Forward Relaying with Relay Gain and Fairness
Ryoulhee Kwak, J. M. Cioffi (Stanford University, USA)

WC21T3-6: Reduced Complexity ML Detection for Differential Unitary Decomposition (M-RVD) Ordering in MIMO Systems
Chintha Tellambura (University of Alberta, Canada)

Tuesday, 2 December 2008 • 16:00 – 18:00
Location: Grand Salon 17/Street Level
WC22T3: MIMO Detection II
Chair: Jack Winters, Jack Winters Communications, LLC, USA

WC22T3-1: Low-Complexity SQR-based Decoding Algorithm for Quasi-Orthogonal Space-Time Block Codes
Joseph Cavallaro (Rice University, USA)

WC22T3-2: Improved OFDMA Uplink Transmission via Cooperation in the Presence of Frequency Offsets
Bashar Zogheib (Nova Southeastern University, Canada)

WC22T3-3: Novel Sort-Free Detector with Modified Real-Valued Decomposition (M-RVD) Ordering in MIMO Systems
Chris Dick, Raghu Rao (Xilinx, USA)

WC22T3-4: QRD-QLD Searching Based Sphere Detection for Emerging Quasi-Orthogonal Space-Time Block Codes
Predrag Radosavljevic (Rice University, USA)

WC22T3-5: Cooperating Communication in OFDM Systems
Chair: Wei Zhang, University of New South Wales, Australia

WC22T3-1: Opportunistic Relaying in Cooperative OFDM Networks for Throughput and Fairness Improvement
Jia Guo, Han-Wen Luo, Hong-Xing Li (Shanghai JiaoTong University, China)

WC22T3-2: Uplink Ergodic Mutual Information of OFDMA-based Two-Hop Cooperative Relay Networks with Imperfect CSI
Mohamad Khattar Awad, Xuemin Shen (University of Waterloo, Canada)

WC22T3-3: Improved OFDMA Uplink Transmission via Cooperation in the Presence of Frequency Offsets
Zhisong Zhang, Chintha Tellambura (University of Alberta, Canada)

WC22T3-4: Performance Analysis for OFDMA Downlink Relay Systems: Relay Gain and Fairness
Robert Schober (University of British Columbia, Canada)

WC22T3-5: Cooperative OFDM with Amplify-and-Forward Relaying with Timing Offset
K. Raghunath, A. Chockalingam (Indian Institute of Science, India)

WC22T3-6: MAC-PDU Size Optimization for OFDMA Modulated Wireless Relay Networks
Basak Can (Intel Corporation and Aalborg University, USA & Denmark)

Tuesday, 2 December 2008 • 16:00 – 18:00
Location: Grand Salon 15/Street Level
WC23T3: Cross-Layer Optimization
Chair: Maggie Cheng, Missouri University of Science and Technology, USA

WC23T3-1: Approaching the Capacity of Wireless Networks through Distributed Interference Alignment
Krishna Gomadam, Viveck R. Cadambe, Syed A. Jafar (University of California at Irvine, USA)

WC23T3-2: Cross-Layer Design with Adaptive Modulation: Delay, Rate, and Energy Tradeoffs
Daniel O’Neill, Andrea J. Goldsmith, Stephen Boyd (Stanford University, USA)

WC23T3-3: Cross-Layer Design of Optimal Adaptation Technique over Selection-Combining Diversity Nakagami-m Fading Channels
Ashok K. Karmokar, Vijay K. Bhargava (University of British Columbia, Canada)

WC23T3-4: On Optimal Transmission Range for Multihop Cellular Networks
Ravi Shankar Ojha, G. Kannan, S. N. Merchant, U. B. Desai (IIT Bombay, India)

WC23T3-5: Positioning in Wireless Sensor Networks using Array Processing
A. Manikas, Y. I. Kamil (Imperial College London, UK)

WC23T3-6: Maximizing Transport Capacity for Geographic Transmission on Nakagami-m Channels
John M. Shea, Tathagata D. Goswami, Tan F. Wong, Murali Rao, Joseph Glover (University of Florida, USA)

Tuesday, 2 December 2008 • 16:00 – 18:00
Location: Grand Salon 12/Street Level
WC24T3: Capacity and Performance Analysis
Chair: Prathapasinghe Dharmawansa, Hong Kong University of Science and Technology, Hong Kong

WC24T3-1: User Capacity of Rician and Nakagami Fading Broadcast Channels
Hengameh Keshavarz, Liang-Liang Xie, Ravi R. Mazumdar (University of Waterloo, Canada)

WC24T3-2: The Influence of the Severity of Fading and Shadowing on the Statistical Properties of the Capacity of Nakagami-Lognormal Channels
Guiliza Rafiq, Matthias Pätzold (University of Agder, Norway)

WC24T3-3: A General Exact Formulation for the Outage Probability in Nakagami-m Fading Channels
Ashok K. Karmokar, Vijay K. Bhargava (University of British Columbia, Canada)

WC24T3-4: Performance Analysis of a Partially Coherent System using Constellation Rotation and Coordinate Interleaving
Nauman F. Kiyani, Jos H. Weber (Delft University of Technology, Netherlands)

WC24T3-5: Short Term Link Performance Modeling for ML Receivers with Mutual Information per Bit Metrics
Krishna Sayana, Jeff Zhuang, Ken Stewart (Motorola, USA)

WC24T3-6 Asymptotic Symbol Error Rate for Selection Combining on Nakagami-m Fading Channels
Ning Kong, Larry B. Milstein (UCSD, USA)

Tuesday, 2 December 2008 • 16:00 – 18:00
Location: Grand Salon 22/Street Level
WC25T3: IEEE 802.16 Networks
Chair: Ping Wang, Nanyang Technological University, Singapore

WC25T3-1: Scalable and Adaptive Resource Scheduling in IEEE 802.16 WiMAX Networks
Hanwu Wang, Weijia Jia (City University of Hong Kong, China)
History of Telecommunications
Panel Session
Tuesday, 2 December 2008 • 16:00 – 18:00
Location: Grand Ballroom B/Street Level

**SS02T3: Who Invented Radio…?**
Chair: Mischa Schwartz, Columbia University, USA

Panelists:
- Bernie Carlson (University of Virginia, USA)
- Gabriele Facisiccesa (University of Bologna, Italy)
- Jean-Marie Dihlac (LAAS-CNRS, France)
- Alex Gelman (NETovations, USA)

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**Poster Sessions**
Tuesday, 2 December 2008 • 16:00 – 18:00
Location: Expo Poster Area 1/EXPO Hall/Second Level

**CT12PT3: Cooperation and Relay**
Chair: Tie Liu, Texas A&M University, USA

- **CT12PT3-1: Achievable Rates in Gaussian Half-Duplex Multiple Relay Networks**
  Peter Rost, Gerhard Fettweis (Technische Universität Dresden, Germany)

- **CT12PT3-2: GMRES Interference Canceller for MIMO Relay Network**
  Abdou Abderrazak, Marion Berbineau (Institut National de Recherche sur les Transports et leur Sécurité Villeneuve D’Ascq, France)

- **CT12PT3-3: On Base Station Cooperation Schemes for Downlink Network MIMO under a Constrained Backhaul**
  Patrick Marsch, Gerhard Fettweis (Technische Universität Dresden, Germany)

- **CT12PT3-4: Multiuser Diversity in Cellular Downlink Using the Queued-code**
  Satashu Goel, Rohit Negi (Carnegie Mellon University, USA)

- **CT12PT3-5: Quality-of-Service Based Power Allocation in Spectrum-Sharing Channels**
  Lela Musavian, Sonia Alissa (University of Quebec, INRS-EMT, Canada)

- **CT12PT3-6: Scaling Laws for Overlaid Wireless Networks: A Cognitive Radio Network vs. a Primary Network**
  Changchuan Yin (Beijing University of Posts and Telecommunications, China)
  Long Gao, Shuguang Cui (Texas A&M University, USA)

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**WN11T3-2: Network Formation Games for Distributed Uplink Tree Construction in IEEE 802.16J Networks**
Walid Saad, Are Hjørungnes (UNIK/University of Oslo, Norway)
Zhu Han (University of Houston, USA)
Mérouane Debbah (SUPELEC, France)

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**WN11T3-3: Minimizing Interference in WiMax/802.16 based Mesh Networks with Centralized Scheduling**
Jad El-Najjar, Brigitte Jaumard, Chadi Assi (Concordia University, Canada)

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**WN11T3-4: Improving the Data Scheduling Efficiency of the IEEE 802.16(d) Mesh Network**
Shie-Yuan Wang, Chih-Chen Lin, Ku-Han Fang
(National Chiao Tung University, Taiwan)

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**WN11T3-5: Pricing of Differentiated-QoS Services WiMAX Networks**
Aymen Belghith, Loutfi Nuaymi, Patrick Maillé (TELECOM Bretagne, France)

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**WN12T3-1: Prioritized Maximal Scheduling in Wireless Networks**
Qiao Li, Rohit Negi (Carnegie Mellon University, USA)

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**WN12T3-2: Distributed Sender Scheduling for Multimedia Transmission in Wireless Peer-to-Peer Networks**
Pengbo Si, Hong Ji (Beijing University of Posts and Telecommunications, China)
F. Richard Yu (Carleton University, Canada)
Victor C. M. Leung (University of British Columbia, Canada)

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**WN12T3-3: Cross-Layer Diversity and Scheduling Optimization for Interference-Limited MIMO Ad Hoc Networks**
Tamer ElBatt (Lockheed Martin Advanced Technology Center, USA)

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**WN12T3-4: Topology-Transparent Distributed Scheduling in Multi-Hop Wireless Networks**
Qiong Sun, Victor Li, Ka-Cheong Leung (University of Hong Kong, Hong Kong)

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**WN12T3-5: A Scheduler for the Downlink of Multi-User Wireless Systems with Frame Aggregation**
Feng Wang, Mounir Hamdi
(Hong Kong University of Science and Technology, Hong Kong)

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**WN12T3-6: Failure Rate Minimization with Multiple Function Unit Scheduling for Heterogeneous WSNs**
Meikang Qiu, (University of New Orleans, USA)
Jing Deng (University of North Carolina at Greensboro, USA)
Edwin H.-M. Sha (University of Texas at Dallas, USA)
WC39PT3-2: Analysis of Multicast and Unicast Integrated Multiclass Service Provision in Cellular Networks
Yi Huang, Lin Tian, Yubo Yang, Jinglin Shi (Institute of Computing Technology, Chinese Academy of Sciences, China)
Eryk Dutkiewicz (University of Wollongong, Austria)

WC39PT3-3: Asymptotic Throughput in Wireless Multicast OFDM Systems
Juan Liu, Wei Chen, Zhigang Cao (Tsinghua University, China)
Ying Jun (Angela) Zhang, Soung Chang Liew (Chinese University of Hong Kong, Hong Kong)

WC39PT3-4: Throughput Modeling of Large-Scale 802.11 Networks
Michael Timmers, (KU Leuven / IMEC, Leuven, Belgium)
Sofie Pollin (IMEC / University of California at Berkeley, USA)
Antoine Dejonghe, Liesbet Van der Perre, Francky Catthoor (IMEC, Belgium)

WC39PT3-5: Receiver-Cooperation: Network Coding and Distributed Scheduling
Phisan Kaewprapha, Nattakan Puttarak (Lehigh University, USA)
Haidong Wang (Thales Communications, Inc., USA)
Tiffany Jing Li (Lehigh University, USA)

WC39PT3-6: Adaptive Soft Frequency Reuse for Inter-Cell Interference Coordination in SC-FDMA based 3GPP LTE Uplinks
Xuehong Mao (University of Utah, USA)
Amine Maaref, Koon Hoo Teo (Mitsubishi Electric Research Lab, USA)

Wednesday, 3 December 2008

AH16W1: Power Control & Performance Evaluation
Chair: Bala Natarajan, Kansas State University, USA

AH16W1-1: RF/FSO Wireless Sensor Networks: A Performance Study
Sashigaran Sivathasan (Curtin University of Technology, Malaysia)
Dominic C. O’Brien (Oxford University, UK)

AH16W1-2: Distributed Power Minimization for Data Aggregation in Wireless Sensor Networks
Chun-Chia Chen (National Tsing Hua University, Taiwan)
Ness B. Shroff (Ohio State University, USA)
Duan-Shin Lee (National Tsing Hua University, Taiwan)

AH16W1-3: An Evolutionary Algorithm to a Multi-Objective Deployment and Power Assignment Problem in Wireless Sensor Networks
Andreas Konstantinidis, K. Yang, Qingfeng Zhang (University of Essex, UK)

Rahim Kacimi, Riadh Dhaou (Université de Toulouse, France)
A.-L. Beylot (Université de Toulouse - IRIT/CNRS, France)

AH16W1-5: Joint Power and Quantization Optimization for Target Tracking in Wireless Sensor Networks
Rajet Krishnan, Bala Natarajan (Kansas State University, USA)

AH16W1-6: Proposal and Analysis of Region-Based Location Service Management Protocol for VANETs
Hanane Salet, (University of Waterloo, Canada)
Rami Langar (University of Paris 6, France)
Otman Basir, Raouf Boutaba (University of Waterloo, Canada)

AH17W1: Broadcast & Multicast Protocols
Chair: Blilab Sedik, Rensselaer Polytechnic Institute, USA

AH17W1-1: Maximum-Lifetime Coding Subgraph for Multicast Traffic in Wireless Sensor Networks
Vahid Shah-Mansouri, Vincent W. S. Wong (University of British Columbia, Canada)

AH17W1-2: Adaptive Multicast Tree Construction for Elastic Data Streams
Ying Zhu, Ken Q. Pu (University of Ontario Inst. of Technology, Canada)

AH17W1-3: Reliable Anonymous Multicasting in Disruption Tolerant Networks
Kamalavasan Srinivasan, Parmesh Ramanathan (University of Wisconsin at Madison, USA)

AH17W1-4: An Efficient Multicast Tree Aggregation Mechanism for Ad Hoc Networks
Noureddine Kettaf, Pascal Lorenz, Hafid Abouaissa (University of Haute Alsace, France)

AH17W1-5: Aerial Platform Placement Algorithm to Satisfy Connectivity and Capacity Constraints in Wireless Ad Hoc Networks
Senni Perumal (Automation, Information & Management Systems, Inc., USA)
John S. Baras (University of Maryland at College Park, USA)

AH17W1-6: Efficient Broadcasting in Delay Tolerant Networks
Appu Goundan, Eric Coe, Cauilgi Raghavendra (University of Southern California at Los Angeles, USA)

AH18W1: Routing & Resource Management in WMN
Chair: Ho Ting Cheng, University of Waterloo, Canada

AH18W1-1: A Dynamic Programming Approach for Routing in Wireless Mesh Networks
J. Crichigno, J. Khoury (University of New Mexico, USA)
M. Y. Wu (Shanghai Jiao Tong University, China)
W. Shu (University of New Mexico, USA)

AH18W1-2: Maximizing Broadcast Load in Multi-Channel Multi-Interface Wireless Mesh Networks
Hon Sun Chiu, Kwan L. Yeung, King-Shan Lui (University of Hong Kong, Hong Kong)

AH18W1-3: WPR: A Proactive Routing Protocol Tailored to Wireless Mesh Networks
Miguel Elias M. Campista, Luis Henrique M. K. Costa, Otto Carlos M. B. Duarte (Universidade Federal do Rio de Janeiro, Brazil)

AH18W1-4: Rate-Adaptive Coding-Aware Multiple Path Routing for Wireless Mesh Networks
Yan Yan, Zhuang Zhao, Baoxian Zhang (Chinese Academy of Sciences, China)
Jian Ma (Nokia Research Center, China)
Hussein Moutfah (University of Ottawa, Canada)

AH18W1-5: Power Fairness in A Scalable Ring-Based Wireless Mesh Network with Variable Ring-Width Design
Jane-Hwa Huang, Li-Chun Wang, Chung-Ju Chang (National Chiao Tung University, Taiwan)

AH18W1-6: A Novel Solution for End-to-End Fairness Problem in Wireless Mesh Networks
Liang Zhang, Shigang Chen, Ying Jian, Ming Zhang (University of Florida, USA)
Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Salon 3/Street Level
CQ07W1: Network Traffic Engineering
Chair: Hajime Nakamura, KDDI R&D Laboratories, Inc., Japan

CQ07W1-1: Distributed and Dynamic Resource Allocation for Delay Sensitive Network Services
Michael G. Kallitsis (North Carolina State University, USA)
Robert D. Callaway (IBM, USA)
Michael Devetsikiotis (North Carolina State University, USA)
George Michailidis (University of Michigan, USA)

CQ07W1-2: Multi-Scenario Based Call Admission Control for Coexisting Heterogeneous Wireless Technologies
Prodromos Makris, Charalabos Skianis (University of the Aegean, Greece)

CQ07W1-3: Optimal CAC Policy in Multimedia Wireless Networks with Reservation Channel Schemes
Wenlong Ni (University of Toledo, USA)
Wei Li (Texas Southern University, USA)
Mansoor Alam (University of Toledo, YSA)

CQ07W1-4: RVP: A New Policy for Aggregate Reservation
Hai Lin (Osaka Prefecture University, Japan)
Houda Labiod (Telecom ParisTech, France)

CQ07W1-5: Network Traffic Demand Prediction with Confidence
Mikhail Dashevskiy, Zhiyuan Luo
(Royal Holloway, University of London, UK)

CQ07W1-6: Traffic Engineering in Next Generation Networks Using Genetic Algorithms
Tatiana Onali, Luigi Atzori (DIEE - University of Cagliari, Italy)

Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Salon 15/Street Level
CT08W1: LDPC Codes
Chair: Hsiao-feng Lu, National Chung-Cheng University, Taiwan

CT08W1-1: Noise Thresholds for Discrete LDPC Decoding Mappings
Brian M. Kurkoski, Kazuhideko Yamaguchi, Kingo Kobayashi
(University of Electro-Communications, Japan)

CT08W1-2: A Two-Stage Iterative Decoding of LDPC Codes for Lowering Error Floors
Jingyu Kang, Shu Lin (University of California at Davis, USA)
Li Zhang (Tokyo Institute of Technology, Japan)
Zhi Ding (University of California at Davis, USA)

CT08W1-3: Fast Identification of Error-Prone Patterns for LDPC Codes under Message Passing Decoding
Jing Lei (Rutgers University, USA)
Wen Gao (Thomson Inc., USA)

CT08W1-4: A Class of Quantum LDPC Codes Constructed From Finite Geometries
Salah A. Aly (Texas A&M University, USA)

CT08W1-5: Clustering of Cycles and Construction of LDPC Codes
Xiaofu Wu, Chunming Zhao, Xiaohu You, Ming Jiang
(Southeast University, China)

CT08W1-6: New Rateless Sparse-Graph Codes with Dynamic Degree Distribution for Erasure Channels
Xingkai Bao, Tiffany Jing Li (Lehigh University, USA)

Chair: Hsiao-feng Lu

Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Salon 19/Street Level
NG07W1: Mobile Networks
Chair: Georgios Karagiannis, University of Twente, Netherlands

NG07W1-1: Impact of Mobility on the Behavior of Interference in Cellular Wireless Networks
Serhan Yarkan (University of South Florida, USA)
Amine Maaref, Koon Hoo Teo (Mitsubishi Electric Research Lab, USA)
Hüseyin Arslan (University of South Florida, USA)

NG07W1-2: A New Cooperative Localization Method for UMTS Cellular Networks
Francesca Lo Piccolo (University of Roma ‘Tor Vergata’, Italy)

NG07W1-3: Analytical Analysis of the Coverage of a MBSFN OFDMA Network
Olfa Ben Haddada, Letian Rong, Salah Eddine Elayoubi (Orange Labs – France Telecom R&D, France)

NG07W1-4: SHOP: An Integrated Scheme for SCTP Handover Optimization in Multihomed Environments
Kun Zheng, Min Liu, Gang Xu, Zhongcheng Li (Institute of Computing Technology, Chinese Academy of Sciences, China)

NG07W1-5: Performance Comparison between NEMO BSP and SINEMO Mohammed Atiquzzaman, Md. Sazzadur Rahman, Outman Bouideln (University of Oklahoma, USA)
William Ivancic (NASA Glenn Research Center, USA)

NG07W1-2: Inferring Internet Worm Temporal Characteristics
Qian Wang, Zesheng Chen, Kia Makki, Niki Pissinou (Florida International University, USA)
Chao Chen (Indiana University - Purdue University Fort Wayne, USA)

NG07W1-3: Verification of Distributed Firewalls
Mansoor Jafry (University of Texas at Austin, USA)
Mohamed G. Gouda (University of Texas at Austin, USA)

NG07W1-4: Evaluation of TCP State Replication Methods for High-Availability Firewall Clusters
Yi-Hsuan Feng, Nen-Fu Huang, Yen-Min Wu (National Tsing-Hua University, Taiwan)

NG07W1-5: Scalable Pattern-Matching via Dynamic Differentiated Distributed Detection (D4)
Kai Zheng (IBM China Research Lab, China)
Hongbin Lu (Tsinghua University, China)

NG07W1-6: Highly Memory-Efficient LogLog Hash for Deep Packet Inspection
Masanori Bando, N. Sertac Artan, H. Jonathan Chao (Polytechnic University of NYU, USA)
Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Salon 24/Street Level

ON04W1: Dimensioning, Provisioning and Design Issues in Optical Networks
Chair: Biswanath Mukherjee, University of California at Davis, USA

ON04W1-1: On-Demand Provisioning of Data-Aggregation Requests over WDM Mesh Networks
Dragos Andrei (University of California at Davis, USA)
Massimo Tornatore (Politecnico di Milano, Italy / University of California at Davis, USA)
Dipak Ghosal, Charles U. Martel, Biswanath Mukherjee (University of California at Davis, USA)

ON04W1-2: Comparison of Routing and Wavelength Assignment Algorithms in WDM Networks
K. Christodoulouopoulos, K. Manousakis, E. Varvarigos (University of Patras, Greece)

ON04W1-3: An Analytical Model to Optimally Dimension Resources in OPS Equipped with Heterogeneous Wavelength Converters
Vincenzo Eramo, Marco Listanti, Angelo Germoni (University of Roma-Sapienza, Italy)

ON04W1-4: Maximizing Throughput of an Optical Opportunistic Hyperchannel Subject to QoS Constraint
Jing Chen (University of Texas at Dallas, USA)
Jianping Wang (City University of Hong Kong, Hong Kong)
Hui Yu (Shanghai Jiao Tong University, China)
S. Q. Zheng (University of Texas at Dallas, USA)

ON04W1-5: On Sparse Placement of Regenerator Nodes in Translucent Optical Network
Arunabha Sen, Sudheendra Murthy (Arizona State University, USA)
Subir Bandopadhyay (University of Windsor, Canada)

ON04W1-6: On Using Circuit-Switched Networks for File Transfers
Xiuduan Fang, Malathi Veeraraghavan (University of Virginia, USA)

Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Salon 10/Street Level

SA08W1: Cognitive Radio and Networks (PHY/Transmission/Power Control)
Chair: Andeepan Sithamparanathan, Australian National University, Australia

SA08W1-1: Asynchronous Distributed Power Control under Interference Temperature Constraints
Qianxi Lu, Wenbo Wang, Wei Wang, Tao Peng (Beijing University of Posts & Telecommunications, China)

SA08W1-2: Rate Adaptation for Cognitive Radio Systems with Latency Constraints
Jane W. Huang, Vikram Krishnamurthy (University of British Columbia, Canada)

SA08W1-3: Spectral Leakage Suppression for DFT-Based OFDM via Adjacent Subcarriers Correlative Coding
Renhui Xu, Ming Chen (Southeast University, China)

SA08W1-4: Spatial Spectrum Holes for Cognitive Radio with Directional Transmission
Guodong Zhao (Beihang University, China)
Jun Ma, Ye Li (Georgia Institute of Technology, USA)
Tao Wu, Young H. Kwon, Anthony Soong (Huawei Technologies, USA)
Chenyang Yang (Beihang University, China)

SA08W1-5: Intermodal Distance Distribution and Power Control for Coexisting Radio Networks
Ali Reza Babaei, Bijan Jabbari (George Mason University, USA)

SA08W1-6: Modulation Recognition In Multipath Fading Channels using Cyclic Spectral Analysis
Vasu Chakravarthy, Robert Hisnay (Air Force Research Laboratory, USA)
Zhiqiang Wu (Wright State University, USA)

Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Salon 9/Street Level

SA09W1: Data Storage
Chair: Bruce Wilson, Hitachi, USA

SA09W1-1: Global Timing Control with Applications to Tape Storage Channels
Sedat Olcner, Jens Jelitto (IBM Zurich Research Laboratory, Switzerland)
Robert A. Hutchins (IBM Tucson, USA)

SA09W1-2: Media Defect Recovery Using Full-Response Reequalization in Magnetic Recording Channels
WeiJun Tan, Shaohua Yang, Kelly Fitzpatrick, Hao Zhong, Li Du, Yuanxing Lee (LSI Corporation, USA)

SA09W1-3: Distance-Enhancing Constrained Codes for Optical Recording Channels
Kui Cai (Data Storage Institute, Singapore)
Kees A. Schouhamer Immink (Turing Machines Inc., Netherlands)
Zhiliang Qin (Data Storage Institute, Singapore)

SA09W1-4: Soft-Decision Decoding of Reed-Solomon Codes using Successive Error-and-Erasure Decoding
SoO-Woong Lee, B. V. K. Vijaya Kumar (Carnegie Mellon University, USA)

SA09W1-5: Reverse Concatenation with Maximum Transition Run (MTR) Codes for High-Density Perpendicular Recording
Ksenija Lakovic, Mario Blaum, Rick Galbraith, Bruce Wilson (Hitachi Global Storage Technologies, USA)

SA09W1-6: Lowering LDPC Error Floors by Postprocessing
Zhengya Zhang (University of California at Berkeley, USA)
Lara Dolecek (Massachusetts Institute of Technology, USA)
Borivoje Nikolic, Venkat Anantharam, Martin Wainwright (University of California at Berkeley, USA)

Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Salon 22/Street Level

SP10W1: Modulation & Receiver Techniques
Chair: Shigeru Shimamoto, Waseda University, Japan

SP10W1-1: Transmitter-Based Minimization of Error Rates in the Downlink of Wireless Systems
Fred Richter, Andreas Fischer, (Technische Universitat Dresden, Germany)
René Habendorf (Vodafone Chair, TU Dresden, Germany)
Gerhard Fettweis (Technische Universitat Dresden, Germany)

SP10W1-2: A Robust Joint Model-Based Demodulator for Continuous Phase Modulation Signals in an Unknown Environment
Seema Sud (GCI, Inc., USA)

SP10W1-3: Joint MAP Detection for MIMO-OFDM Systems
Zhendong Luo (China Academy of Telecommunication Research of MIL, China)
Fan Yang (Beijing University of Posts and Telecommunications, China)
Dawei Huang (Alcatel-Lucent, China)

SP10W1-4: Optimizing Enhanced Hierarchical Modulations
Shu Wang, Byung K. Yi (LG Electronics Inc., Korea)

SP10W1-5: Towards the Performance of ML and the Complexity of MMSE - A Hybrid Approach
Byoungkyu Shim (Korea University, Korea)
Jun Won Choi (University of Illinois at Urbana-Champaign, USA)
Insung Kang (Qualcomm Inc., USA)
SP10W1-6: Maximum Likelihood Based Modulation Classification for Unsynchronized QAMs
Qinghua Shi, Y. Karasawa (University of Electro-Communications, Japan)

Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Salon 21/Street Level
WC25W1: MIMO Estimation and Detection
Chair: Hlaing Minn, University of Texas at Dallas, USA

WC25W1-1: Novel Tap-Wise LMMSE Channel Estimation for MIMO W-CDMA
Christian Mehlführer, Markus Rupp (Vienna University of Technology, Austria)

WC25W1-2: Robust Channel Tracking in Fast Fading MIMO Channels
Ranjitha Prasad, K. Girdhar (Indian Institute of Technology, India)

WC25W1-3: Data Detection for Doubly-Selective MIMO Channels Using Decision-Directed Channel Tracking and Exponential Basis Models
Hyosung Kim, Jitendra K. Tugnait (Auburn University, USA)

WC25W1-4: Ranging Signal Designs for MIMO-OFDMA Systems
Jianqiang Zeng, Hlaing Minn (University of Texas at Dallas, USA) Chia-Chin Chong (DoCoMo USA Labs, USA)

WC25W1-5: Orthogonal Space-Time Block Codes over Semi-Identical Channels with Channel Estimation
Jun He, Pooi-Yuen Kam (National University of Singapore, Singapore)

WC25W1-6: Packet Length Optimization for MIMO Mobile Systems with Estimated CSI
K. M. Zahidul Islam, Danand Wang, Naofal Al-Dhahir (University of Texas at Dallas, USA)

Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Salon 18/Street Level
WC26W1: MIMO Transmission Techniques
Chair: Jack Winters, Jack Winters Communications, LLC, USA

WC26W1-1: On Strategies for Source Information Transmission over MIMO Systems
Marco Zorzi, Jerry D. Gibson (University of California at Santa Barbara, USA) Marco Chiani (University of Bologna, Italy)

WC26W1-2: Generalized Differential Transmission for STBC Systems
Liangbin Li (UCI, USA) Zhaoxi Fang, Zhu Yu, Zongxin Wang (Fudan University, China)

WC26W1-3: Performance of MIMO HARQ Under Receiver Complexity Constraints
Dimitris Toupakaris (University of Patras, Greece) Jungwon Lee, Adina Mateache, Hui-Ling Lou (Marvell Semiconductor, Inc, USA)

WC26W1-4: A New Diagonally Layered Spatial Multiplexing Scheme with Partial Channel Knowledge
K. V. Srinivas, K. Girdhar, R. D. Koilpillai (Indian Institute of Technology, India)

WC26W1-5: High-Rate Space-Time Coded Large MIMO Systems: Low-Complexity Detection and Performance
Saif K. Mohammed, A. Chockalingam, B. Sundar Rajan (Indian Institute of Science, India)

WC26W1-6: MIMO Transmitter Optimization with Mean and Covariance Feedback for Low SNR
Neenan Ramalingam, Zhengdao Wang (Iowa State University, USA)

Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Ballroom A/Street Level
WC27W1: Cognitive Radio I
Chair: Erik Perrins, University of Kansas, USA

WC27W1-1: Robust Designs For MISO-Based Cognitive Radio Networks With Primary User’s Partial Channel State Information
Lan Zhang (National University of Singapore, Singapore) Ying-Chang Liang (Institute for Infocomm Research, SG) Yan Xin (National University of Singapore, Singapore)

WC27W1-2: GLRT-Based Spectrum Sensing for Cognitive Radio
Rui Zhang, Ying-Chang Liang, Yonghong Zeng (Institute for Infocomm Research, Singapore)

WC27W1-3: A Comparison of Three Classes of Spectrum Sensing Techniques
Takeshi Ikuma, Mort Naraghi-Pour (Louisiana State University, USA)

WC27W1-4: Sensing-Based Spectrum Sharing in Cognitive Radio Networks
Xin Kang (National University of Singapore, Singapore) Ying-Chang Liang (Institute for Infocomm Research, Singapore) Lan Zhang, Hari Krishna Garg (National University of Singapore, Singapore)

WC27W1-5: Interference Reduction by Beamforming in Cognitive Networks
Simon Yu, Mai Vu, Vahid Tarokh (Harvard University, USA)

WC27W1-6: A Cognitive Framework for Improving Coexistence Among Heterogeneous Wireless Networks
Stefan Geirhofer, Lang Tong (Cornell University, USA) Brian M. Sadler (Army Research Laboratory, USA)

Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Salon 12/Street Level
WC28W1: OFDM Estimation and Synchronization
Chair: Ismail Guvenc, DoCoMo USA Labs, USA

WC28W1-1: BER Analysis of OFDM Systems Impaired by Phase Noise in Frequency-Selective Rayleigh Fading Channels
Chi-Hsiao Yih (Tamkang University, Taiwan)

WC28W1-2: Maximum Likelihood Estimation and Correction of Carrier Frequency Offset in OFCDM Systems
Lamiaa Khalil, Alagan Anpalagan (Ryerson University, Canada)

WC28W1-3: A Blind Maximum-SINR Synchronization Technique for OFDM Systems
Wen-Long Chin, Sau-Gee Chen (National Chiao Tung University, Taiwan)

WC28W1-4: Doppler Spread Estimation by Subspace Tracking for OFDM Systems
Xiaochuan Zhao, Tao Peng, Ming Yang, Wenbo Wang (Beijing University of Posts and Telecommunications, China)

WC28W1-5: Design and Analysis of Channel Estimation for Multi-Band OFDM-UWB Systems
Zhongjun Wang (Wipro Techno Centre (Singapore) Pte Ltd, Singapore) Masayuki Tomisawa (Oki Techno Centre (Singapore) Pte Ltd, Singapore)

WC28W1-6: Spectral Sculpting for OFDM based Opportunistic Spectrum Access by Extended Active Interference Cancellation
Zhiqiang Wang, Daiming Qu, Tao Jiang, Yejun He (Huazhong University of Science and Technology, China)
Thursday, December 2008 • 10:00 – 12:00
Location: Grand Ballroom B/Street Level

WN13W1: OFDM and OFDMA-Based Wireless Networks
Chair: Yi Qian, National Institute of Standards and Technology, USA

Daniele Tarchi, Romano Fantacci, Daria Marabissi, Marco Cecchi
(University of Florence, Italy)

WN13W1-2: An Uplink Resource Allocation Scheme for SDMA-based IEEE 802.16 MIMO-OFDMA Systems
Di Pang, Jinlong Hu, Jihua Zhou, Jinglin Shi (Institute of Computing Technology, Chinese Academy of Sciences, China)
Eryk Dutkiewicz (University of Wollongong, Australia)

WN13W1-3: Interference Management Distributed Reservation Protocol for OFDM-Based UWB Communications
Raed T. Al-Zubi, Marvan Krunz (University of Arizona, USA)
Alaa Muqattash (Olympus Communication Technology of America, Inc., USA)

WN13W1-4: An Efficient Downlink Data Mapping Algorithm for IEEE802.16e OFDMA Systems
Xin Jin, Jihua Zhou, Jinlong Hu, Jinglin Shi, Yi Sun (Institute of Computing Technology, Chinese Academy of Sciences, China)
Eryk Dutkiewicz (University of Wollongong, Australia)

WN13W1-5: Cross-Layer Optimization for Fairness in OFDMA Cellular Networks with Fixed Relays
Lei You, Mei Song, Junde Song
(Beijing University of Posts and Telecommunications, Taiwan)

WN13W1-6: Efficient Algorithms for Resource Allocation in Heterogeneous OFDMA Networks
Shafi Bashar, Zhi Ding (University of California at Davis, USA)

CQ11PW1: Communications QoS, Reliability, and Performance Modeling I
Chair: Toshinori Tsuboi, Tokyo University of Technology, Japan

CQ11PW1-1: A Novel QoS-Based Co-Allocation Model in Computational Grid
Peng Xiao, Zhigang Hu (Central South University, China)

CQ11PW1-2: Blooming Trees for Minimal Perfect Hashing
Gianni Antichi, Domenico Ficara, Stefano Giordano, Gregorio Procissi, Fabio Vitucci (University of Pisa, Italy)

CQ11PW1-3: The PCC Rule in the 3GPP IMS Policy and Charging Control Architecture
Alberto Díez Albaladejo, Fabrizio Carvalho de Gouveia, Marius Iulian Corici, Thomas Magedanz (TU Berlin/Fraunhofer FOKUS, Germany)

CQ11PW1-4: DSCIM: A Novel Service Invocation Mechanism in IMS
Qi Qi, Jianxin Liao, Xiaomin Zhu, Yuefei Cao
(Beijing University of Posts and Telecommunications, China)

CQ11PW1-5: Bi-Dimensional P2P and MRBD Protocols to Enhance Lookup Performance
Fei Richard Yu (Carleton University, Ottawa, CA)

CQ11PW1-6: Target-Based Power Control for Queueing Systems with Applications to Packet Switches
Benjamin Yoklen, Dimitrios Tsamis, Nicholas Bambos (Stanford University, USA)

Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Salon 6/Street Level

WN14W1: Network Designs and Protocols
Chair: Xi Zhang, Texas A&M University, USA

WN14W1-1: Reducing Sensing Error in Cognitive PANs through Modulation of Sensing Probability
Vojislav B. Masic, Jelena Masic (University of Manitoba, Canada)

WN14W1-2: Wireless Access in Vehicular Environments Using BitTorrent and Bargaining
Barsha Shrestha (Boise State University, USA)
Dusit Niyato (Nanyang Technological University, Singapore)
Zhu Han (University of Houston, USA)
Ekram Hossain (University of Manitoba, Canada)

WN14W1-3: Network Planning for Next-Generation Metropolitan-Area Broadband Access under EPON-WIMAX Integration
Bin Lin, Pin-Han Ho, Xuemin Shen (University of Waterloo, Canada)
Frank Chih-Wei Su (Institute for Information Technology, Taiwan)

WN14W1-4: Analysis of Delayed Acknowledgment Scheme with Packet Fragmentation of UWB-Based WPAN
Ruonan Zhang, Lin Cai (University of Victoria, Canada)

WN14W1-5: Analysis of Wireless Inertial Sensing for Athlete Coaching Support
Lawrence Cheng, Stephen Hailes (University College London, UK)

WN14W1-6: Energy Efficient Communication in Multi-Radio PANs
Huaiyu Liu (Intel Corporation, USA)
Niveditha Sundaram (University of Wisconsin, USA)
Tsung-Yuan (Charles) Tai (Intel Corporation, USA)

CQ12PW1: Communications QoS, Reliability, and Performance Modeling II
Chair: Fabrizio Granelli, University of Trento, Italy

CQ12PW1-1: Nonlinear Quadratic Pricing for Concavifiable Utilities in Network Rate Control
Quanyan Zhu (University of Toronto, Canada)
Rafael Boutaba (University of Waterloo, Canada)

CQ12PW1-2: Benchmarking Stream-Based XPath Engines Supporting Simultaneous Queries for Service Oriented Networking
T. C. Lam, Jianxun Jason Ding, Stanley Poon (Cisco Systems, Canada)

CQ12PW1-3: Networked Embedded Systems: A Quantitative Performance Comparison
Alessio Botta, Walter de Donato Antonio Pescapè, Giorgio Ventre
(University of Naples “Federico II”, Italy)

CQ12PW1-4: A Virtual Node Based Network Distance Prediction Mechanism
Changyou Xing (PLA University of Science and Technology, China)
Ming Chen (Southeast University, China)

CQ12PW1-5: Correlation among Piecewise Unwanted Traffic Time Series
Kensuke Fukuda (National Institute of Informatics, Japan)
Toshio Hidote (Toyohashi University of Technology, Japan)
Osamu Akashi (NTT Network Innovation Labs., Japan)
Toshiharu Sugawara (Tokyo University of Technology, Japan)

CQ12PW1-6: Investigating the Influence of Market Shares on Interconnection Settlements
Ruzana Davoyan (University of Mannheim, Germany)
Jörn Altmann (International University in Germany, Germany)
CS06PW1: Multimedia Application over Wireless Networks

Chair: Abdelhamid Mellouk, University Paris XII, France

CS06PW1-1: Towards "Guardian Angels" and Improved Mobile User Experience
Ben Falchuk, Shoshana Loeb (Telcordia Technologies, Inc., USA)

CS06PW1-2: A New Approach of Announcement and Avoiding Routing Voids in Wireless Sensor Networks
Mohamed Aissani, Abdelhamid Mellouk (University Paris XII, France)
Nadjib Badache (University of Sciences and Technology Houari Boummediane, Algeria)
Mohamed Djebbar (Polytechnic School, Algeria)

CS06PW1-3: A Service Based Clustering Approach for Pervasive Computing in Ad Hoc Networks
Chadi Maghmoumi, T. Antonio Andriatrimoson (University of Haute Alsace, France)
Jaafer Gaber (Belfort University, France)
Pascal Lorenz (University of Haute Alsace, France)

CS06PW1-4: Delay-Sensitive Services QoS Control in Sensor-Based Mass Applications
S. Marinovic, N. Rozic (University of Split, Croatia)
I. Cubic (Ericsson Nikola Tesla, Croatia)

CS06PW1-5: Maximum Utility Peer Selection for P2P Streaming in Wireless Ad Hoc Networks
Eren Gürses (University of Waterloo, Canada)
Anna N. Kim (Center for Quantifiable QoS, Norway)

CS06PW1-6: Quality-Driven Optimization for Content-Aware Real-Time Video Streaming in Wireless Mesh Networks
Dalei Wu, Song Ci, Haiyan Luo (University of Nebraska at Lincoln, USA)
Haohong Wang (Marvell Semiconductors, USA)
Aggelos Katragkou (Northwestern University, USA)

CS02PW1: Capacity & Channel Allocation

AH19W2: Vertical Handoff between 802.11 and 802.16 Wireless Access Networks
Yongqiang Zhang, Weihua Zhuang (University of Waterloo, Canada)
Aladdin Saleh (Bell Canada, Canada)

AH20W2: Rate-Based Channel Assignment Algorithm for Multi-Channel Wireless Ad Hoc Networks

AH21W2: Vehicular Ad Hoc Networks

AH20W2-1: Channel Capacity and Second Order Statistics in Tactical Mobile Ad Hoc Networks
Basile L. Agba (Institut de Recherche d’Hydro-Québec, Canada)
Francois Gagnon, Ammar Kouki (École de Technologie Supérieure, Canada)

AH20W2-2: Joint QoS-Aware Node Clustering and Tax-Based Subcarrier Allocation for Wireless Mesh Networks
Ho Ting Cheng, Weihua Zhuang (University of Waterloo, Canada)
Aladdin Saleh (Bell Canada, Canada)

AH20W2-3: Joint Association, Routing and Bandwidth Allocation for Wireless Mesh Networks
Lin Luo (The Australian National University, Australia)
Dipankar Raychaudhuri (Rutgers University, USA)
Hang Liu, Mingquan Wu, Dekai Li (Thomson Inc., USA)

AH20W2-4: VoIP Call Capacity over Wireless Mesh Networks
Md. Atiur Rahman Siddique, Joarder Kamruzzaman (Monash University, Australia)

AH20W2-5: Effective Radio Partitioning and Efficient Queue Management Schemes in a Wireless Mesh Network
Weihuang Fu, Dharma P. Agrawal (University of Cincinnati, USA)

AH20W2-6: Rate-Based Channel Assignment Algorithm for Multi-Channel Multi-Rate Wireless Mesh Networks
Sok-Hyong Kim, Young-Joo Suh (Pohang University of Science and Technology, Korea)
AH21W2-6: Geo-Localized Virtual Infrastructure for VANETs: Design and Analysis
Moez Jerbi (Orange Labs - France Telecom R&D, France)
A.-L. Beylot (Université de Toulouse - IRIT/CNRS, France)
Sidi-Mohammed Senouci (Orange Labs - France Telecom R&D, France)
Yacine Ghamri-Doudane (ENSIEE (LRSM), France)

Wednesday, 3 December 2008 • 13:30 – 15:30
Location: Grand Salon 19/Street Level

NG08W2: Network Measurement
Chair: Henrik Lundqvist, NEC Europe Ltd, Germany

NG08W2-1: On the Variability of Internet Host Interactions
Dongjin Lee, Neel Brownlee (University of Auckland, New Zealand)

NG08W2-2: Network Topology Discovery Based on a Finite Set of Hypotheses
Andrea Di Pietro, Domenico Ficara, Stefano Giordano, Francesco Oppedissi, Gregorio Procissi (University of Pisa, Italy)

NG08W2-3: What if the End Systems Knew the Bandwidth Available in the Network?
Paulo Loureiro (Polytechnic Institute of Leiria, Portugal)
Edmundo Monteiro (University of Coimbra, Portugal)

NG08W2-4: Efficient Table Lookup Method for Performance Monitoring of VoIP Flows in Mobile Environment
Yoshinori Kitasuij, Teruyuki Hasegawa, Hitohdetsu Yokota (KDDI R&D Laboratories, Inc., Japan)

NG08W2-5: Automatic Large Scale Generation of Internet PoP Level Maps
Dima Feldman, Yuval Shavitt (Tel-Aviv University, Israel)

NG08W2-6: Peer-to-Peer Traffic: From Measurements to Analysis
Fabrice Guilbault (France Telecom R&D, France)
Catherine Rosenberg (University of Waterloo, Canada)
Guillaume Vu Brugier (France Telecom R&D, France)
Long Le (NEC Laboratories Europe, Germany)

Wednesday, 3 December 2008 • 13:30 – 15:30
Location: Grand Salon 10/Street Level

NS08W2: Denial of Service
Chair: Suku Nair, Southern Methodist University, USA

NS08W2-1: An Aggregative Approach for Scalable Detection of DoS Attacks
Sudhakar Ganti, Kui Wu, Ali reza Hamidi (University of Victoria, Canada)

NS08W2-2: Evaluation of an Online Parallel Anomaly Detection System
Shashank Shanbhag, Tilman Wolf (University of Massachusetts, USA)

NS08W2-3: Enhancing Security Using the Discarded Security Information in Mobile WiMAX Networks
Youngwook Kim, Saewoong Bahk (Seoul National University, Korea)

NS08W2-4: A Dynamic Load-Balanced Hashing Scheme for Networking Applications
N. Sertac Artan, Haowei Yuan, H. Jonathan Chao (Polytechnic University of NYU, USA)

NS08W2-5: A Method of Detecting Network Anomalies in Cyclic Traffic
Shigeki Harada, Ryoichi Kawahara, Tatsuya Mori, Noriaki Kaniyama, Haruhisa Hasegawa, Hideaki Yoshino (NTT, Japan)

NS08W2-6: Efficient and Low-Cost Hardware Defense Against DNS Amplification Attacks
Changhua Sun (Tsinghua University, China)
Bin Liu (ENST - École Nationale Supérieure des Télécommunications, France)
Lei Shi (Tsinghua University, China)

Wednesday, 3 December 2008 • 13:30 – 15:30
Location: Grand Salon 13/Street Level

NS08W2-7: Hypothesis Generation for Anomaly Detection in Mobile Intemet Infrastructures
Sudhakar Ganti, Ali Reza Hamidi, Kui Wu (University of Victoria, Canada)

NS08W2-8: A Detection System for Identification of DNS Amplification Attacks
Shashank Shanbhag, Tilman Wolf (University of Massachusetts, USA)

NS08W2-9: A Method for Detecting Network Anomalies in Cyclic Traffic
Shigeki Harada, Ryoichi Kawahara, Tatsuya Mori, Noriaki Kaniyama, Haruhisa Hasegawa, Hideaki Yoshino (NTT, Japan)

NS08W2-10: Efficient and Low-Cost Hardware Defense Against DNS Amplification Attacks
Changhua Sun (Tsinghua University, China)
Bin Liu (ENST - École Nationale Supérieure des Télécommunications, France)
Lei Shi (Tsinghua University, China)

Wednesday, 3 December 2008 • 13:30 – 15:30
Location: Grand Salon 9/Street Level

NS09W2: Intrusion Detection I
Chair: Yang Xiao, University of Alabama, USA

NS09W2-1: Botnets Detection Based on IRC-Community
Wei Lu, Ali A. Ghorbani (University of New Brunswick, Canada)

NS09W2-2: Protograph E2 RC Codes
Andres Ceron, Rodolfo Feick (Universidad Técnica Federico Santa María, Chile)

NS09W2-3: Optimal LLR Clipping Levels for Mixed Hard/Soft Output Detection
Ernesto Zimmermann (Technische Universität Dresden, Germany)
David L. Milliner, John R. Barry (Georgia Institute of Technology, USA)
Gerhard Fettweis (Technische Universität Dresden, Germany)

NS09W2-4: Novel Graph-Based Algorithms for Soft-Output Detection over Dispersive Channels
Dario Fertoni, Alan Barbieri, Giulio Colavolpe (University of Parma, Italy)

NS09W2-5: Bandwidth-Efficient Modulation Codes Based on Nonbinary Irregular Repeat Accumulate Codes
Mao-Ching Chiu (National Chung Cheng University, Taiwan)

NS09W2-6: Iterative Detection Techniques for Clipped OFDM Systems
Jun Tong, Li Ping (City University of Hong Kong, Hong Kong)
ON05W2-1: Detection of Bot Infected PCs Using Destination-Based IP and Domain Whitelists During a Non-Operating Term
Keisuke Takemori (KDDI R&D Laboratories Inc., Japan)
Masakatsu Nishigaki, Tomohiro Takami (Shizuoka University, Japan)
Yutaka Miyake (KDDI R&D Laboratories Inc., Japan)

ON05W2-2: Protection and Restoration in Optical Networks
Chair: Ravi Subrahmanyan, National Semiconductors Corporation, USA

ON05W2-3: Survivable WDM Networks Design with Non-Simple p-Cycle-Based PWCE
Samir Sebbah, Brigitte Jaumard (Concordia University, Canada)

ON05W2-4: Network Protection Codes Against Link Failures Using Network Coding
Salah A. Aly (Texas A&M University, USA)
Ahmed E. Kamal (Iowa State University, USA)

ON05W2-5: On the Benefits of a Fast Heuristic for Backup Reprovisioning in WDM Networks
Diego Lucerna (Politecnico di Milano, Italy)
Massimo Tornatore (Politecnico di Milano, Italy / University of California at Davis, USA)
Achille Pattavina (Politecnico di Milano, Italy)

ON05W2-6: Robust Routing in Load-balancing WDM Networks to Cope with Multiple Failures
Rui Dai, Lemin Li, Sheng Wang, Xiaoning Zhang
(University of Electronic Science and Technology of China, China)

ON05W2-7: Monitoring Trail: A New Paradigm for Fast Link Failure Localization in WDM Mesh Networks
Bin Wu, Pin-Han Ho (University of Waterloo, Canada)
Kwan L. Yeung (University of Hong Kong, Hong Kong)

ON05W2-8: Differentiated Availability-Aware Connection Provisioning in Optical Transport Networks
Burak Kantarcı (Istanbul Technical University, Turkey)
Hussein T. Mouth (University of Ottawa, Canada)
Sema Oktug (Istanbul Technical University, Turkey)

ON05W2-9: Network Protection Codes Against Link Failures Using Network Coding
Salah A. Aly (Texas A&M University, USA)
Ahmed E. Kamal (Iowa State University, USA)

Thursday, December 4 2008  •  13:30 – 15:30
Location: Grand Ballroom B/Street Level
SP11W2: Advanced Topics in Signal Processing II
Chair: Hsiao-Chun Wu, Louisiana State University, USA

SP11W2-1: Impact of Signaling Schemes on Iterative Linear Minimum-Mean-Square-Error Detection
Li Ping, Xiaojun Yuan, Qinghua Guo, Jun Tong
(City University of Hong Kong, Hong Kong)

SP11W2-2: Filter Design with Secrecy Constraints: The Degraded Parallel Gaussian Wiretap Channel
Miguel R. D. Rodrigues, Pedro D. M. Almeida, Marta F. P. Almeida
(University of Porto, Portugal)

SP11W2-3: Performance Enhancement of Channel-Phase Precoded Ultra-Wideband (CPP-UWB) Systems by Rake Receivers
Yu-Hao Chang (University of Southern California, USA)
Shang-Ho Tsai (National Chiao Tung University, Taiwan)
Xiaoli Yu, C.-C. Jay Kuo (University of Southern California, USA)

SP11W2-4: Maximizing the Periodogram
Barry G. Quinn (Macquarie University, Australia)
Robby G. McKillop, I. Vaughan L. Clarkson
(University of Queensland, Australia)

SP11W2-5: Allocation of Feedback Bits among Users in Broadcast MIMO Channels
Bruno Clerckx, Gil Kim, Joonil Choi, Sungjin Kim
(Samsung Advanced Institute of Technology, Korea)
WC29W2: Multiuser MIMO
Chair: Syed Jafar, University of California at Irvine, USA

WC29W2-1: Performance Enhancement of Random Unitary Beamforming based Multiuser MIMO Systems with Optimum Combinining
Peng Lu, Hong-Chuan Yang (University of Victoria, Canada)
Young-Chai Ko (Korea University, Korea)

WC29W2-2: MIMO Multichannel Beamforming: Analysis in the Presence of Rayleigh Fading, Unbalanced Interference and Noise
Liang Sun, Matthew R. McKay
(Hong Kong University of Science and Technology, Hong Kong)
Shi Jin (University College London, UK)

WC29W2-3: MIMO Multiple Access Channels with Noisy Channel Estimation and Partial CSI Feedback
Aikan Soysal (Bahcesehir University, Turkey)
Sennur Ulukus (University of Maryland, USA)

WC29W2-4: Thresholded Interference Cancellation Algorithm for the LTE Uplink Multiuser MIMO
Xinzheng Wang, Pengcheng Zhu, Ming Chen (Southeast University, China)

WC29W2-5: Performance of an Iterative Multi-User Receiver for MIMO-OFDM Systems in a Real Indoor Scenario
P. Salvo Rossi (Norwegian University of Science and Technology, Norway)
P. Hammarberg, F. Tufvesson, O. Edfors, P. Almers (Lund University, Sweden)
V.-M. Kolmonen, J. Koivunen, K. Haneda
(Helsinki University of Technology, Finland)
R. R. Müller (Norwegian University of Science and Technology, Norway)

WC29W2-6: Interference-Aware Decentralized Precoding for Multicell MIMO TDD Systems
Byong Ok Lee, Hui Won Je, Ilsoo Sohn (Seoul National University, Korea)
Oh-Soon Shin (Soongsil University, Korea)
Kwang Bok Lee (Seoul National University, Korea)

WC30W2: Performance of Cooperative Communication Systems
Chair: Xian Liu, University of Arkansas at Little Rock, USA

WC30W2-1: Ergodic Capacity of Multi-Hop Wireless Relaying Systems in Rayleigh Fading
Golnaz Farhadi, Norman C. Beaulieu (University of Alberta, Canada)

WC30W2-2: Level-Crossing Rate and Average Duration of Fades of the Envelope of Mobile-to-Mobile Fading Channels in Cooperative Networks Under Line-of-Sight Conditions
Batool Talha, Matthias Pätzold (University of Agder, Norway)

WC30W2-3: Performance of Cooperative Multi-Hop Wireless Systems over Log-Normal Fading Channels
Marco Di Renzo (Telecommunications Technological Center of Catalonia, Spain)
Fabio Graziosi, Fortunato Santucci (University of l’Aquila, Italy)

WC30W2-4: Near-Optimum Power Allocation for Outage Restricted Distributed MIMO Multi-Hop Networks
Dirk Wübben, Yidong Lang (University of Bremen, Germany)

WC30W2-5: Diversity Performance of a Practical Non-Coherent Detect-and-Forward Receiver
Michael R. Souryal, Huiping You
(National Institute of Standards and Technology, USA)

WC30W2-6: Non-Coherent Amplify-and-Forward Generalized Likelihood Ratio Test Receiver
Michael R. Souryal (National Institute of Standards and Technology, USA)

WC31W2: Cognitive Radio II
Chair: Shuangqing Wei, Louisiana State University, USA

WC31W2-1: Power Allocation for Cognitive Radios Based on Primary User Activity in an OFDM System
Ziaul Hasan (University of British Columbia, Canada)
Ekram Hossain (University of Manitoba, Canada)
Charles Despins (Prompt Inc., Canada)
Vijay Bhargava (University of British Columbia, Canada)

Vahid Asghari, Sonia Aïssa (University of Quebec, INRS-EMT, Canada)

WC31W2-3: Game Theoretic Rate Adaptation for Spectrum-Overlay Cognitive Radio Networks
Laxminarayana S. Pillutta, Vikram Krishnamurthy
(University of British Columbia, Canada)

WC31W2-4: Game Theoretic Approach to Spectrum Allocation for Weak Interference Systems
Peter von Wrycza, M. R. Bhavani Shankar, Mats Bengtsson, Björn Ottersten
(Royal Institute of Technology, Sweden)

WC31W2-5: Cooperative and Non-cooperative Aloha Games with Channel Capture
Younggeun Cho, Fouad A. Tobagi (Stanford University, USA)

WC31W2-6: Weighted Sum Rate Optimization of Multicell Cognitive Radio Networks
Yao Ma, Alex Leith (Iowa State University, USA)
Dong In Kim (Sungkyunkwan University, Korea)

WC32W2: OFDM Loading, Performance, and PAPR
Chair: Teng Joon Lim, University of Toronto, Canada

WC32W2-1: Efficient Ergodic Discrete Loading for OFDM Systems
Brian S. Krongold, Yuan Yuan He (University of Melbourne, Australia)

WC32W2-2: Joint Power Loading of Data and Pilots in OFDM using Imperfect Channel State Information at the Transmitter
Chitaranjan Pelur Sukumar (University of California at Irvine, USA)
Ricardo Merched (Universidade Federal do Rio de Janeiro, Brazil)
Ahmed Eltawil (University of California at Irvine, USA)

WC32W2-3: Novel Low-Complexity SLM Schemes for PAPR Reduction in OFDM Systems
Chih-Peng Li, Sen-Hung Wang, Kun-Sheng Lee
(National Sun Yat-Sen University, Taiwan)
Chin-Liang Wang (National Tsing Hua University, Taiwan)

WC32W2-4: BER Analysis for Asymmetric OFDM Systems
Lin Luo, (Australian National University, Australia)
Jian (Andrew) Zhang, Zhenning Shi (National ICT Australia, Australia)

WC32W2-5: Performance of BICM-OFDM Systems in Non-Gaussian Noise and Interference
Amir Nasri, Robert Schober (University of British Columbia, Canada)
poster posters sessions

Wednesday, 3 December 2008 • 13:30 – 15:30
Location: Expo Poster Area 2/EXPO Hall/Second Level

WN19PW2: Enabling Techniques II
Chair: Geiyong Min, University of Bradford, UK

WN20PW2-1: A New Model Reduction Method for Traffic Described by Markov Modulated Poisson Processes
Ming Yu (Florida State University, Tallahassee, USA)

WN20PW2-2: Optimizing Throughput of UWB Networks with AMC, DRP, and Dly-ACK
Ruonan Zhang, Lin Cai (University of Victoria, Canada)

WN20PW2-3: TCP SPC: Statistical Process Control for Enhanced Transport over Wireless Links
Dawei Gao, Yantai Shu, Li Yu (Tianjin University, China)

WN20PW2-4: Cross-Layer Adaptive Resource Allocation Algorithm For Wireless Communications Networks
Karim E. Morsy (SySDSoft, Egypt)

WN20PW2-5: Cross Layer Optimization with Complete Fairness Constraints in OFDMA Relay Networks
Jianwei Wang (The Chinese University of HongKong, China)

WN20PW2-6: Capacity Analysis for OFDM Systems with Transceiver I/Q Imbalance
Stefan Krone, Gerhard Fettweis (Technische University Dresden, Germany)

WN15W2: Wireless Mesh Networks
Chair: Meikang Qiu, University of New Orleans, USA

WN15W2-1: Connection-Based Scheduling for Supporting Real-Time Traffic in Wireless Mesh Networks
Jun Zou, Dongmei Zhao (McMaster University, Canada)

WN15W2-2: Nonpreemptive Constrained Link Scheduling in Wireless Mesh Networks
Yiqun Wu (Tsinghua University, China)

WN15W2-3: Multi-Hop Effective Bandwidth Based Routing in Multi-Radio Wireless Mesh Networks
Hongkun Li, Yu Cheng, Chi Zhou (Illinois Institute of Technology, USA)

WN15W2-4: Interplay of Network Topology and Channel Assignment in Multi-Radio Multi-Rate Multi-Channel Wireless Mesh Networks
Tehuang Liu, Wanjuan Liao (National Taiwan University, Taiwan)

WN15W2-5: Topology Control for Max-Min Traffic Delivery Ratio using Directional Antennas for Wireless Mesh Networks
Jun Zhang, Zhongming Zheng, Xiaohua Jia (City University of Hong Kong, Hong Kong)

WN15W2-6: A Multi-Objective Optimization Model For Planning Robust and Least Interfered Wireless Mesh Networks
Djohara Benyamina, Abdelhamik Hafid, Michel Gendreau (University of Montreal, Canada)

Wednesday, 3 December 2008 • 13:30 – 15:30
Location: Expo Poster Area 1/EXPO Hall/Second Level

WN19PW2: Enabling Techniques I
Chair: Shiwen Mao, Auburn University, USA

WN19PW2-1: Distributed Multi-Interface Multi-Channel Random Access
A. Hamed Mohsenian Rad, Vincent W. S. Wong (University of British Columbia, Canada)

WN19PW2-2: Throughput Analysis of a Medium Access Control Protocol for a Distributed Cooperative ARQ Scheme in Wireless Networks
J. Alonso-Zarate (Centre Tecnològic de Telecomunicacions de Catalunya, Spain)

WN19PW2-3: HLBP: A Hybrid Leader Based Protocol for MAC Layer Multicast Error Control in Wireless LANs
Zhao Li (University of Science and Technology of China, China / Saarland University, Germany)

WN19PW2-4: COMB: Cell Based Orientation Aware MANET Broadcast MAC Layer
Cristina Rico García, Andreas Lehner, Thomas Strang (German Aerospace Center, Germany)

WN19PW2-5: Applications of Video Distortion Estimation Algorithms for Efficient Video Streaming
F. Babich, M. D’Orlando, F. Vatta (University of Trieste, Italy)

WN19PW2-6: On the Impact of Inter-Cell Interference in LTE
András Rácz (Ericsson Research, Hungary)

Poster Sessions
Wednesday, 3 December 2008 • 13:30 – 15:30
Location: Expo Poster Area 2/EXPO Hall/Second Level

WN20PW2: Enabling Techniques II
Chair: Geiyong Min, University of Bradford, UK

WN20PW2-1: A New Model Reduction Method for Traffic Described by Markov Modulated Poisson Processes
Ming Yu (Florida State University, Tallahassee, USA)

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Ruonan Zhang, Lin Cai (University of Victoria, Canada)

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Dawei Gao, Yantai Shu, Li Yu (Tianjin University, China)

WN20PW2-4: Cross-Layer Adaptive Resource Allocation Algorithm For Wireless Communications Networks
Karim E. Morsy (SySDSoft, Egypt)

WN20PW2-5: Cross Layer Optimization with Complete Fairness Constraints in OFDMA Relay Networks
Jianwei Wang (The Chinese University of HongKong, China)

WN20PW2-6: Capacity Analysis for OFDM Systems with Transceiver I/Q Imbalance
Stefan Krone, Gerhard Fettweis (Technische University Dresden, Germany)
Wednesday, 3 December 2008 • 16:00 – 18:00
Location: Grand Salon 7/Street Level
AH23W3: Topology Management & Physical Mesh
Chair: Yang Xiao, University of Alabama, USA

AH23W3-1: An Architecture for Survivable Mesh Networking
Michele N. Lima (Université Pierre et Marie Currie, France)
Helber W. da Silva (Federal University of Ceará, Brazil)
Aldri L. dos Santos (Federal University of Paraíba, Brazil)
Guy Pujolle (Université Pierre et Marie Currie, France)

AH23W3-2: Design of Wireless Mesh Networks: Expansion and Reliability Studies
A. Beljadid, A. S. Hafid, M. Gendreau (University of Montreal, Canada)

AH23W3-3: On the Achievable Throughput of Multi-Band Multi-Antenna Wireless Mesh Networks
Bechir Hamdaoui (Oregon State University, USA)
Kang G. Shin (University of Michigan, USA)
AH23W3-4: Joint Tx and Rx IQ Imbalance Compensation of OFDM Transceiver in Mesh Network
Chia-Hong Li (Chunghwa Telecom Co., Ltd., Taiwan)

AH23W3-5: A Distributed System for Cooperative MIMO Transmissions
Hsin-Yi Shen, Haiming Yang, Biplob Sikdar, Shivkumar Kalyanaraman
(Rensselaer Polytechnic Institute, USA)

AH23W3-6: Joint Scheduling and Rate Control Algorithms for Stable Throughput Maximization under Channel Estimation in Single-Hop Wireless Networks
Anna Pantelidou, Anthony Ephremides (University of Maryland, USA)
AH24W3-6: A Domination Approach to Clustering Nodes for Data Aggregation  
Kranthi K. Mamidisetty, Shivakumar Sastry, Mike Ferrara, Maithili Ghamande  
(University of Akron, USA)

Wednesday, 3 December 2008 • 16:00 – 18:00  
Location: Grand Salon 3/Street Level

CQ09W3: Performance Modeling and Evaluation  
Chair: Luigi Atzori, University of Cagliari, Italy

CQ09W3-1: A Theoretical Model of the Effects of Losses and Delays on the Performance of SIP  
Dorgham Sisalem, Mikkel Lisbjerg (Tekelec, Germany)  
Yacine Rebai (Fraunhofer Fokus, Germany)

CQ09W3-2: The Inference of Link Loss Rates with Internal Monitors  
Haibo Su, Wentao Chen, Shijun Lin, Depeng Jin, Lieguang Zeng  
(Tsinghua University, China)

CQ09W3-3: Identifying Anomalous Traffic Sources Using Flow Statistics  
Ryoichi Kawahara, Noriaki Kamiyama, Shigeki Harada, Haruhisa Hasegawa  
(NTT Service Integration Laboratories, Japan)  
Shoichiho Asano (NFL, Japan)

CQ09W3-4: A Measurement Study of P2P Live Video Streaming on WLANs  
Qin Wang, Kewen Lin, Ke Lin, Dihui Mao, Ming Yang (Fudan University, China)

CQ09W3-5: A New Method for End-to-End Available Bandwidth Estimation  
Anfu Zhou, Min Liu, Yilin Song, Zhongcheng Li  
(Institute of Computing Technology, Chinese Academy of Sciences, China)  
Hui Deng (China Mobile, China)  
Yuanchen Ma (Hitachi (China) R&D Corporation, China)

CQ09W3-6: Analysis of Load-Balanced Switch with Finite Buffers  
Yury Audzevich, Yoram Ofek (University of Trento, Italy)  
Miklos Telek (Technical University of Budapest, Hungary)  
Bülent Yener (RPI, USA)

Wednesday, 3 December 2008 • 16:00 – 18:00  
Location: Grand Salon 1/Street Level

CT10W3: Communication Systems  
Chair: Sriman Vishwanath, University of Texas at Austin, USA

CT10W3-1: Tight Bounds of the Generalized Marcum Q-Function Based on Log-Concavity  
Yin Sun, Shidong Zhou (Tsinghua University, China)

CT10W3-2: A Configurable Symbol Synchronizer for Digital Systems  
W. Justin Barnes, Yahia Tachwali, Hazem H. Refai (University of Oklahoma, USA)

CT10W3-3: Error Rate Performance of Multilevel Signals with Coherent Detection  
Nikos C. Sagias (University of Peloponisse, Greece)  
Ranjan K. Mallik (Indian Institute of Technology - Delhi, India)  
George S. Tombras (University of Athens, Greece)

CT10W3-4: Quasi-Orthogonal Multi-Carrier CDMA  
Yutaka Jitsumatsu, Tohru Kohda (Kyushu University, Japan)

CT10W3-5: Joint Channel and Mismatch Correction for OFDM Reception with Time-Interleaved ADCs: Towards Mostly Digital MultiGigabit Transceiver Architectures  
P. Sandeep, Upamanu Madhow, Munkyo Seo, Mark Rodwell (University of California at Santa Barbara, USA)

CT10W3-6: Performance Analysis of Type-II Hybrid ARQ Systems  
Yi-Hsuan Kao, Yen-Huan Li, Wang-An Lin, Hsu-Chieh Hu, Ping-Cheng Yeh  
(National Taiwan University, Taiwan)

Wednesday, 3 December 2008 • 16:00 – 18:00  
Location: Grand Salon 19/Street Level

NG09W3: Overlay Networks  
Chair: Zhou Su, Waseda University, Japan

NG09W3-1: On the Design of Overlay Networks for IP Links Fault Verification  
M. Fraiwan, G. Manimaran (Iowa State University, USA)

NG09W3-2: Fault Tolerant Service Composition in Service Overlay Networks  
Jin Wang (University of Science and Technology of China, China)  
Jianping Wang (City University of Hong Kong, Hong Kong)  
Najie Gu (University of Science and Technology of China, China)  
Bing Yang (Cisco Systems, USA)

NG09W3-3: Un-Leeching P2P Streaming by Active Overlay Management  
Jeonghun Noh, Pierpaolo Baccichett, Aditya Mavlankar, Bernd Girod  
(Stanford University, USA)

NG09W3-4: Capacity-Aware Mechanisms for Service Overlay Design  
Yi Zhang, Yong-Kang Ji, Min-You Wu (Shanghai JiaoTong University, China)  
Wei Shu (University of New Mexico, USA)

NG09W3-5: Best-Effort Network Layer Packet Reordering in Support of Multilatp Overlay Packet Dispersion  
John Russell Lane, Akhiro Nakao (University of Tokyo, Japan)

NG09W3-6: Windowing BitTorrent for Video-on-Demand: Not All is Lost with Tit-for-Tat  
Petri Savolainen, Niklas Raatikainen, Susu Tarkoma  
(Helsinki University of Technology, Finland)
**ON06W3-3: Collaborative Transmit Power Adaptive Optical Wireless System for an Indoor Channel**
Jamal Alattar, Jaafar M. H. Elmirghani (University of Leeds, UK)

**ON06W3-4: Performance Modeling of Optical Code Division Multiple Access Networks Impaired by Group Velocity Dispersion**
Miguel Pimenta, Izzat Darwazeh (University College London, UK)

**ON06W3-5: Signal Detection in Optical Communications through the Atmospheric Turbulence Channel**
Jacob C. Brandenburg, John Q. Liu (Wayne State University, USA)

**ON06W3-6: Enhancement of Optical Wireless Multi-Pulse PPM**
Yusuke Kozawa, Hiromasa Habuchi (Ibaraki University, Japan)

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**SA11W3-1: Collusion-Resistant Multi-Winner Spectrum Auction for Cognitive Radio Networks**
Yongle Wu, Beibei Wang, K. J. Ray Liu, (University of Maryland, USA)
T. Charles Clancy (Laboratory for Telecommunications Sciences, USA)

**SA11W3-2: A Game Theoretic Framework for Distributed Self-Coexistence Among IEEE 802.22 Networks**
S. Sengupta, R. Chandramouli (Stevens Institute of Technology, USA)
S. Brahma, M. Chatterjee (University of Central Florida, USA)

**SA11W3-3: Evolutionary Game Framework for Behavior Dynamics in Cooperative Spectrum Sensing**
T. Charles Clancy (Laboratory for Telecommunications Sciences, USA)

**SA11W3-4: A Frequency Agile Implementation for IEEE 802.22 using Software Defined Radio Platform**
Yahia Tachralli, Mustafa Chmeisheh, Fadi Basma, Hazem H. Refai (Oklahoma University, USA)

**SA11W3-5: Capacity Analysis of an Opportunistic Scheduling System in a Spectrum Sharing Environment**
Tae-Won Ban, Dan Keun Sung, Bang Chul Jung (Korea Advanced Institute of Science and Technology, Korea)
Wan Choi (Information and Communications University, Korea)

**SA11W3-6: Information Theoretic Approach to Signal Feature Detection for Cognitive Radio**
Mostafa Afgani, Sinan Sinanovic, Harald Haas (University of Edinburgh, UK)
WC33W3-1: The Impact of Imperfect Channel State Information on QRD-Based Precoded MIMO-OFDM System
Kyeong Jin Kim (Nokia Research Center, USA)
Peter Wang (NSN, USA)
Ronald A. Illis (University of California at Santa Barbara, USA)

WC33W3-2: A Supervised Learning Approach to Adaptation in Practical MIMO-OFDM Wireless Systems
Robert C. Daniels, Constantine Caramanis, Robert W. Heath Jr. (University of Texas at Austin, USA)

WC33W3-3: 3G LTE Simulations Using Measured MIMO Channels
Yngve Selén, Henrik Asplund (Ericsson Research, Ericsson AB, Sweden)

WC33W3-4: Throughput/Delay Measurements of Limited Feedback Beamforming in Indoor Wireless Networks
Robert C. Daniels, Ketan Mandke, Kien T. Truong, Scott M. Netles, Robert W. Heath Jr. (University of Texas at Austin, USA)

WC33W3-5: Effect of Channel Estimation Errors in MIMO-OFDM Systems with Phase Noise Compensation
Roberto Corvaja (University of Padova, Italy)
Ana García Armada (Universidad Carlos III de Madrid, Spain)

Chair: Ana García Armada

WC34W3: Coding in Cooperative Communication Systems

WC34W3-1: Complex Field Network Coding for Wireless Cooperative Multicast Flows
Jun Li, Wen Chen, Xinbing Wang (Shanghai Jiaotong University, China)

WC34W3-2: Location-Aware Cooperative Communications Utilizing Linear Network Coding
Hung-Quoc Lai (US Army RDECOM CERDEC, USA)
Ahmed S. Ibrahim, K. J. Ray Liu (University of Maryland, USA)

WC34W3-3: Physical Layer Differential Network Coding for Two-Way Relay Channels
Tao Cui (California Institute of Technology, USA)
Feifei Gao (Institute for Infocomm Research, Singapore)
Chintan Teltambura (University of Alberta, Canada)

WC34W3-4: Queued Cooperative Wireless Networks With Rateless Codes
Neellesh B. Mehta, Vinod Sharma, Gaurav Bansal (Indian Institute of Science, India)

WC34W3-5: Novel Rateless Coded Selection Cooperation in Dual-Hop Relaying Systems
Reza Nikjah, Norman C. Beaulieu (University of Alberta, Canada)

WC34W3-6: Enhanced Bidirectional Relaying Schemes for Multi-hop Communications
Minghai Feng, Xiaoming She, Lan Chen (DoCoMo Beijing Communication Laboratories Co., Ltd, China)

Chair: Robert Schober

Wednesday, 3 December 2008 • 16:00 – 18:00
Location: Grand Salon 18/Street Level

WC35W3-1: A Two-Dimensional Markov Model for Cross-Layer Design in AMC/ARQ-Based Wireless Networks
Jaume Ramis, Loren Carrasco, Guillem Femenias (University of the Balearic Islands, Spain)

WC35W3-2: Joint Methods of Cell Searching and DoA Estimation for a Mobile Relay Station with Multiple Antennas
Yo-Han Ko, Chang-Hwan Park, Yong-Soo Cho (Digital Communications Lab., Korea)

WC35W3-3: Energy Efficient Estimation of Gaussian Sources over Inhomogeneous Gaussian MAC Channels
Shuangqing Wei, Rajgopal Kannan, Satharama Iyengar (Louisiana State University, USA)
Nageswara S. Rao (Oakland National Lab, USA)

WC35W3-4: An Efficient Privacy-Preserving Scheme for Wireless Link Layer Security
Yanfei Fan, Bin Lin, Yixin Jiang, Xuemin Shen (University of Waterloo, Canada)

WC35W3-5: Cross-Layer Design for Data Burst Construction in the Downlink of IEEE 802.16 Systems
Patrick Hosein (Huawei Technologies, USA)

WC35W3-6: SINR Balancing for the Multi-User Downlink under General Power Constraints
Albrecht J. Fehske, Fred Richter, Gerhard P. Fettweis (Technische Universität Dresden, Germany)

Chair: Dimitris Toumpakaris

WC36W3: Transmission Technologies and Power Efficiency

WC36W3-1: A Novel CPM-SC-FDMA Transmission Scheme for Power Efficient Communication
Maryllyn P. Wylie-Green (Nokia Siemens Networks, USA)
Erik Perrins (University of Kansas, Lawrence, USA)

WC36W3-2: Efficient M-QAM Transmission using Compacted Magnitude Modulation Tables
Marco Gomes (University of Coimbra, Portugal)
Francisco Cercas (Instituto Superior das Ciências do Trabalho e da Empresa, Portugal)
Vitor Silva (Institute of Telecommunications, Portugal)
Martin Tomlinson (University of Plymouth, UK)

WC36W3-3: Efficient Power Control Over Fading Channels
Adrian Kotelba, Aarne Mämmelä (VTT, Finland)

WC36W3-4: Energy-Efficient Transmission in Frequency-Selective Channels
Guowang Miao (Georgia Institute of Technology, USA)
Nageen Himayat (Intel Corporation, USA)
Ye Li (Georgia Institute of Technology, USA)

WC36W3-5: On the Mutual Information and Power Allocation for Vector Gaussian Channels with Finite Discrete Inputs
Chengshan Xiao, Yahong Rosa Zheng (Missouri University of Science and Technology, USA)

WC36W3-6: Trellis Shaping with Flexible Control of Peak and Average Power for Single-Carrier High-Order QAM
Makoto Tanahashi, Hidêki Ochiai (Yokohama National University, Japan)
WN18W3-4: Analysis of Signaling Cost for a Roaming User in a Heterogeneous Multihomed Mobile Nodes
Dang Duc Nguyen, Yang Xue, Mai Ngoc Son, Chai Kiat Yeo, Bu Sung Lee
(Nanyang Technological University, Singapore)

WN18W3-3: Fast Progress-Based Routing in Sensing-Covered Networks
Tarek El Salti (University of Guelph, Canada)
Thomas Fevens, Alaa E. Abdallah (Concordia University, Canada)

WN18W3-2: Global Optimal Routing, Scheduling and Power Control for Multi-hop Wireless Networks with Interference
Javad Kazemitabar (University of California at Irvine, USA)
Vahid Tabatabaei (University of Maryland at College Park, USA)
Hamid Jafari Khak (University of California at Irvine, USA)

WN18W3-1: A Mobility Management Scheme with QoS Support for Heterogeneous Multihomed Mobile Nodes
Dang Duc Nguyen, Yang Xue, Mai Ngoc Son, Chai Kiat Yeo, Bu Sung Lee
(Nanyang Technological University, Singapore)

WN17W3-5: A Cross-Layer Scheme for Inter-RAT Handover from WiMAX to UMTS
Bin Liu, Philippe Martins
(ENST - École Nationale Supérieure des Télécommunications, France)
Abed Ellatif Samhat, Philippe Bertin (France Telecom R&D, France)

WN17W3-4: Fast Progress-Based Routing in Sensing-Covered Networks
Tarek El Salti (University of Guelph, Canada)
Thomas Fevens, Alaa E. Abdallah (Concordia University, Canada)

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Dang Duc Nguyen, Yang Xue, Mai Ngoc Son, Chai Kiat Yeo, Bu Sung Lee
(Nanyang Technological University, Singapore)

WN18W3-6: Time Dependent Message Spraying for Routing in Intermittently Connected Networks
Eypahan Bulut, Zijian Wang, Boleslaw K. Szymanski
(Rensselaer Polytechnic Institute, USA)

WN18W3-5: On Mobility of Voice-Like and Data Traffic in IEEE802.16e TTMoA
Mathias Boc, Anne Fladenmuller (UPMC University Paris 06, France)
Marcelo Dias de Amorim (CRNS, France)

WN18W3-4: Global Optimal Routing, Scheduling and Power Control for Multi-hop Wireless Networks with Interference
Javad Kazemitabar (University of California at Irvine, USA)
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WN18W3-1: A Mobility Management Scheme with QoS Support for Heterogeneous Multihomed Mobile Nodes
Dang Duc Nguyen, Yang Xue, Mai Ngoc Son, Chai Kiat Yeo, Bu Sung Lee
(Nanyang Technological University, Singapore)
WC41PW3: Localization and Signal Processing
Chair: Prathapasinghe Dharmawansa, Hong Kong University of Science and Technology, Hong Kong

WC41PW3-1: Pseudo Target Dynamic Feasible Region Constraint Location Method Using Single Observer in NLOS Environment
Dandan Fan, Liang Jin, Kaizhi Huang
(Institute of Information Engineering University, China)

WC41PW3-2: Wireless Positioning Based on a Segment-Wise Linear Approach for Modeling the Target Trajectory
João Figueiras, Troels Pedersen, Hans-Peter Schwefel
(Aalborg University, Denmark)

WC41PW3-3: Enhanced UWB Indoor Tracking through NLOS TOA Biases Estimation
J. Youssef, B. Denis, C. Godin (CEA-Leti Minatec, France)
S. Lesecq (INPG-Gipsa Lab, France)

WC41PW3-4: Complexity Reduction of High-Performance Frequency Domain Equalization for CPM
W. Van Thillo, J. Nsenga, R. Lauwereins, V. Ramon, A. Bourdoux
(Inter-University Micro-Electronics Center, Belgium)
F. Horlin (Université Libre de Bruxelles, Belgium)

WC41PW3-5: Performance of Constrained Blind Adaptive DS-CDMA UWB Multiuser Detector in Multipath Channel with Narrowband Interference
Gangadhar Biradar, S.N. Merchant, U.B. Desai
(Indian Institute of Technology, India)

WC41PW3-6: Channel Estimation Using Gaussian Approximation in a Factor Graph for QAM Modulation
Yang Liu, Loïc Brunel (Mitsubishi Electric ITE, France)
Joseph J. Boutros (Texas A&M University at Qatar, Qatar)
Wireless Communication Engineering Technologies (WCET) Certification Program

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Application Period
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Application Deadline
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Edited by Gustavo Giannattasio with contributions by selected wireless communications experts, the Wireless Engineering Body of Knowledge book is published under the IEEE Press Imprint by John Wiley. The WEBOK contents cover all the specialty areas included in the WCET examination. Approximately 250 pages. Coming Soon. See the ComSoc or John Wiley Web site to order.

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BOOK SIGNING

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Shannon’s information-theoretic visions were formulated in the context of ideal lossless entropy encoders, which may have a high codeword length and associated high coding delay. Under idealistic Gaussian channel conditions Shannon formulated his source- and channel-coding separation theorem. However, losslessly entropy-coded multimedia message become undecodable in the presence of transmission errors, regardless of the index or position of the corrupted bits. Hence all source-encoded bits have an equally high error sensitivity.

By contrast, practical lossy multimedia source codecs exploit the psychoacoustic and psychovisual masking properties of the human ear and eye and hence achieve significantly higher compression ratios than entropy codecs. Nonetheless, they often still exhibit residual redundancy, which manifests itself in terms of a correlated source-encoded messages that exhibit unequal bit sensitivity. This unequal bit sensitivity justifies the employment of unequal-protection joint source and channel coding, exchanging extrinsic information across the entire turbo-transceiver.

Furthermore, realistic dispersive fading channels tend to inflict bursty, rather than randomly distributed transmission errors. This light-hearted keynote address will highlight a range of radical research advances in joint source and channel coding as well as wireless transmissions in the interest of approaching the Shannonian predictions not only for transmissions over benign Gaussian, but also over hostile fading channels.

Mobile communication devices are becoming ever more powerful and sophisticated. More and more business and personal users are relying on them for a variety of uses. This course reviews the most recent trends, techniques and system components in the field of wireless multimedia communications.

This tutorial will provide an overview of the key features specific to the 802.16 standards, often referred to as WiMAX (Worldwide Interoperability for Microwave Access) technology. WiMAX is an Orthogonal Frequency Division Multiplexing (OFDM) based system which offers promising high spectral efficiency, scalable carrier bandwidth options (e.g. from 1.25MHz to 20MHz), flexible spectrum options (e.g. 2-6 GHz), multiple duplexing options (Time Division Duplexing & Frequency Division Duplexing), various subchannelization options and users mobility thanks to its 802.16e variant, and more recently 802.16m. Technologies such as Hybrid Automatic Repeat Request (H-ARQ), Space Time Coding (STC), Advanced Antenna Systems (AAS), Multiple Input Multiple Output (MIMO) and Space Division Multiple Access (SDMA) have been enhanced to support mobile environments and to improve the broadband access speed. WiMAX supports a rich set of applications via a connection oriented service flow mechanism in both uplink and downlink directions, where service flow parameters can be dynamically managed through Medium Access Control (MAC) messages in order to meet the Quality of Service (QoS) requirements of various service classes. Examples are Unsolicited Grant Service (UGS), Real-Time Polling Service (rtPS), and Extended Real Time Polling Service (EnPS) – particularly suitable for real time applications like speech with activity detection (VoIP). While the 802.16 standards provide a rich set of design options and a great deal of flexibility in defining the WiMAX related products, a significant challenge is often encountered in the selection of the most appropriate set of features & parameters and in finding the desirable deployment scenarios.

Telemedicine brings together science and applications of medical practice and medical care at a distance. Telemedicine is an information technology that enables doctors to perform medical consultations, diagnoses, and treatments, as well as medical education, away from patients. For example, doctors can remotely examine patients via remote viewing monitors and sound devices, and/or sampling physiological data using telecommunication. Telemedicine technology is applied to areas of emergency healthcare, videoconsulting, telecardiology, telepathology, teledermatology, teleophthalmology, teleoncology, telepsychiatry, teledentistry, etc. In this talk, the speaker will give a survey on telemedicine, particularly on wireless telemedicine.

Dense collections of smart sensors, actuators, and processors that self-configure to network and process form the basis the new networking and processing paradigm, sensor networks. This tutorial will review the emerging sensor networking technologies, protocols and applications, and look at practical and theoretical issues in designing, deploying, analyzing and evaluating sensor networks. First half of the tutorial will provide an overview of field of sensor networks, covering hardware platforms, standards and software support. The second half of the tutorial will delve into algorithms for sensor networks, including those for self-organization, power management, topology control, data routing and transport, clustering, data fusion and security. Examples will be used to provide an overview of the state-of-the-art. Research and development challenges, e.g., in scalability, reliability and power constraints will be addressed.
T6: Next-Generation Broadband Networks
Presenter: Benny Bing, Georgia Institute of Technology, USA

This tutorial focuses on broadband wireless access, emerging wireless LAN technologies, and next-generation video transport. The first part of the tutorial will cover key standards including 802.16 (Wi-Max), 3G/4G/LTE, mobile digital TV broadcast, and 802.22 (wireless regional area network) with emphasis on the 802.16 standard. Key 802.16 topics include frequency bands; physical layer transmission; adaptive modulation and coding; OFDM, OFDMA, and subcarrier allocation; multiple antenna systems; medium access control, duplexing, and frame formats; service flows and scheduling types; mobility support; WiMax Forum; and ongoing 802.16 projects. The second part of the tutorial will cover emerging 802.11 standards and amendments; 802.11n physical layer transmission and medium access control; 802.11k radio resource measurements; 802.11s mesh networks; 802.11 cellular interworking; and new applications. The final part of the tutorial will cover the H.264 AVC packetization architecture; H.264 loss resilience and error containment; video quality assessment; bandwidth prediction; video smoothing and multiplexing; real-time transport protocols; link quality measurement; optimized video transmission framework; policy-based bandwidth management; and peer-to-peer video network transport.

T7: WiMAX Multihop Cellular Networks: Technology and Standardization

Presenters: Mike Hart, UK Broadband, UK
Zhifeng Tao, Mitsubishi Electric Research Laboratories, USA
Yuefeng Zhou, NEC Europe, UK

Multihop relay has been deemed as one of the key technologies to help wireless cellular networks extend coverage, improve QoS, enhance network capacity and eliminate dead spots, all in a cost effective fashion. The first industry standard for multihop relay, i.e., IEEE 802.16j, is anticipated to be officially ratified by the end of 2008. Meanwhile, albeit started only recently, the profiling activity for multihop relay in WiMAX Forum is progressing at a very fast pace. This tutorial is designed to help practitioners, engineers, researchers, students and general audience to understand the state-of-the-art multihop relay technology for wireless cellular networks, and the latest results of the associated IEEE and WiMAX Forum standardization activities. We will first introduce the motivations and applications of multihop relay cellular system, and analyze the system requirement and design challenge of WiMAX relay network. We then will elaborate the fundamental concepts and key enabling protocols that will be introduced in multihop relay WiMAX networks, and share the experience and insights gained in the course of IEEE 802.16j standard development. In the end, the future trends of research and development (R&D) related to multihop relay in wireless cellular networks will be discussed. In order to make it self-contained, the tutorial will also supply necessary IEEE 802.16 and WiMAX protocol background, and highlight peculiarities of an IEEE 802.16j multihop relay system.

T9: Software Defined Radios: Technological Solutions and Challenges paving the way towards Cognitive Radios

Presenters: Antoine Dejonghe, IMEC Wireless Research, Belgium
Liesbet Van der Perre, University of Antwerp, Belgium

The combination of the increasing need for functional flexibility in communication systems (the number of wireless standards to be supported is large and can be expected to grow) and the exploding cost of system-on-chip design will make implementation of wireless standards on reconfigurable radios the only viable option in the coming years. SDR implementations will offer higher flexibility (multi-purpose multi-standard platform, reprogrammable in the field) at lower cost (product development and manufacturing cost lowered thanks to better time-to-market, higher chipset production volume and lower number of components to integrate). A big challenge is to make these platforms energy-efficient. A two-step holistic approach is advocated for this purpose, combining efficient design and efficient operation.

In parallel, there is a growing need to make next-generation terminals more intelligent and adaptive. Through appropriate radio management, these terminals should make flexible and efficient use of network/spectrum resources, as to enable connectivity across complex and spectrum-constrained wireless networking environments. This has lead to the concept of cognitive radio, which is defined on the most generic way as a radio that can autonomously and dynamically adapt its transmission parameters based on interaction with and learning of the environment in which it operates. A second acceptance of cognitive radio (often referred to as opportunistic radio), a radio that co-exists with legacy wireless systems using the same spectrum resources without significantly interfering with them. Technological enablers paving the way in this direction are presented.

T10: Web Security
Presenter: Thomas Chen, Southern Methodist University, USA

The World Wide Web has become such a predominant Internet application that many in the public think that the Web is the Internet. The Web has certainly evolved far from browsing static HTML pages. The Web is now used for e-mail, shopping, banking, socializing, multimedia entertainment, and even replacing traditional desktop office applications. The Web’s apparent ease of use can mislead some users into a false sense of security. A Web browser is a complex software program with many capabilities, which can be used to open various avenues of attack.

This tutorial aims to raise awareness of the many security risks related to the Web. The first part gives an overview of Web protocols and technologies, including DNS, HTTP, SHTTP, SSL, Java, Javascript, ActiveX, and AJAX. The second part of the tutorial focuses on the security of Web servers. We give an overview of possible attacks on Web servers and current practices to strengthen servers against attacks. The third part of the tutorial addresses attacks on the
Web client (browser). Many attacks on the user attempt social engineering, malicious downloads, data theft, or exploits of software vulnerabilities. For social engineering, we describe defenses against phishing attacks. For malicious software, we describe the limitations deliberately placed on Java, Javascript, and ActiveX for security. Additional defenses include antivirus, firewalls, and intrusion detection systems. The last part of the tutorial describes current trends and open issues in Web security that merit attention from researchers and system administrators.

Sunday, 30 November 2008 • 14:00 – 17:30 • Location: Magnolia/Third Level

T11: Project Management for Telecom Projects
Presenter: Celia Desmond, World Class Telecommunications, Canada

This tutorial illustrates the value of project management techniques, and gives the attendees an opportunity to apply some of the key techniques to electronic communications projects. The seminar is not focused on telecommunications technologies. Instead it focuses on bringing these technologies to fruition via successful projects.

This short seminar provides broad coverage of project management methods, supplemented by real project examples from the telecommunications environment. Each process area described in the Project Management Institute’s “Guide to the Project Management Body of Knowledge” will be covered, including Project Integration, Scope Management, Cost Management, Time Management, Risk Management, Procurement Management, Quality Management, Communications Management, Human Resources. Techniques addressing each of these areas can be applied to engineering projects large or small, no matter how simple or complex. In each area the processes are discussed, and some techniques are described.

After an introduction to the telecommunications environment, which will illustrate the issues that telecom managers are facing in business and in their careers, the course shifts to an overview of the areas of project management. All nine of the process areas will be described briefly, but the focus of the tutorial will be on some areas of project management that are very important in the telecom environment. These include Project Management Definition, Project Scope Definition and Management, Project Time Management, Project Risk Management, and Communications.

In each area the processes are discussed, and some techniques are described. Examples of project problems in telecom projects illustrate the need for many of the techniques.

Sunday, 30 November 2008 • 14:00 – 17:30 • Location: Jasperwood/Third Level

T12: Network Coding and its Applications in Communication Networks
Presenter: Alex Sprintson, Texas A&M University, USA

The tutorial will provide basic and in-depth knowledge of the rapidly evolving area of network coding. Network coding generalizes network operation beyond the traditional forwarding or replication of information, allowing network nodes to perform coding operations on information from different streams. Network coding is a novel research area that has a great potential in benefiting many areas of networking and distributed systems. In addition, network coding can be utilized for improving system survivability and resilience to errors. The tutorial will cover a large spectrum of possible application of network coding in areas such as wireless networks, network storage and sensor networks. We will summarize the resent results and potential benefits of network coding that have been demonstrated in various aspects of networking. We will focus on the algorithmic aspects of finding efficient network codes, covering both deterministic and randomized techniques. We will also discuss open problems and directions for future research.

Thursday, 4 December 2008 • 09:00 – 12:30 • Location: Grand Salon 22 & 23/First Level

T13: Multiple Antenna Systems from Optimum Combining to MIMO
Presenters: Marco Chiani, University of Bologna, Italy
Moe Win, Massachusetts Institute of Technology, USA

Multiple antenna systems can exploit the spatial resource to mitigate multipath, to reduce multiuser interference, and to increase spectral efficiency. Applications include wireless cellular systems, high-speed wireless LAN, WiMAX as well as energy-constrained multi nodes wireless systems. This tutorial provides the basic principles and applications of multiple antenna systems, including MIMO and distributed MIMO, and their analysis based on random matrix theory. Recent results on the effect of space and time correlation on the capacity of MIMO systems will be discussed. Then we present practical solutions for MIMO systems, and their performance analysis. Finally, we illustrate some applications of multiple antenna systems and MIMO in cellular systems, wireless LAN, WiMAX, and cooperative diversity for energy constrained wireless sensor networks. It will cover relevant topics including:

- Introduction to multiple antenna systems: diversity, interference, spectral efficiency
- Basic concepts in random matrices theory
- Theoretical limits: the capacity of MIMO systems
- Effects of space and time correlation on MIMO capacity
- Effects of interference: capacity of MIMO in a multiuser scenario
- Distributed MIMO
- Optimum combining to counteract multipath and interference
- MIMO-MMSE: architecture and analytical performance evaluation
- Application of multiple antenna to cellular systems, wireless LAN, WiMAX, and energy-constrained wireless networks
The IP Multimedia Subsystem (IMS) has become the de facto platform of choice for providing a unified session control on top of multiple access network technologies for realizing flexible multimedia applications. Initiated by the Third Generation Partnership Project (3GPP), IMS is now embraced by a number of other standards bodies. Fueled by the notion of Common IMS that consolidates all IMS core standardization in 3GPP, IMS is evolving rapidly with new features and capabilities including ability to anchor calls/sessions in IMS even when the calls are originated/terminated from/to legacy networks, interworking with legacy messaging, multimedia session continuity, support of emergency services, to name a few. IMS architecture and procedures are evolving to support these developments. This tutorial will start with a brief introduction to IMS vision and its evolution from GSM/UMTS. It will then discuss IMS concepts, architectures, procedures, protocols and services. As communications networks are evolving towards packet-based infrastructures with IMS control, consistent provision of services from different access networks becomes a major challenge, particularly during the transition period from circuit-switched networks. The tutorial will discuss how the 3GPP is addressing this challenge with its on-going work on IMS centralized services (ICS), Combined Circuit-Switched and IMS (CSI), Service Level Interworking of Messaging Services, Multimedia Session Continuity, and IMS Session Continuity. The tutorial will conclude with a discussion of IMS interoperability, IMS test beds, and a survey of field trials and deployments of IMS networks.

Thursday, 4 December 2008 • 09:00 – 12:30 • Location: Grand Salon 16 & 19/First Level

T15: Games, Distributed Decision Making and Learning in Wireless Multimedia Networks
Presenter: Mihaela van der Schaar, University of California at Los Angeles, USA

In this course, we will show how different cooperative and non-cooperative games can be constructed to model the interactions emerging among multimedia users in different wireless networks and application scenarios. We also show how wireless multimedia users can successfully compete with each other for the limited and time-varying resources, by optimizing their decision process. The tutorial will discuss in detail several existing multi-agent learning techniques that can be successfully deployed in multi-user wireless communication. Finally, the outcome of various interactions among self-interested users with various amounts of knowledge will be analyzed both in terms of dynamics and steady state equilibrium(s), and we will show how new multi-user communication mechanisms can be synthesized that achieve new measures of optimality, rationality and fairness for wireless networks and applications (e.g. multimedia wireless networks, mobile multimedia applications, peer-to-peer wireless networks etc.).

This tutorial will draw from the fields of multi-user wireless networking, multimedia communication, game-theory and multi-agent learning. A unique and distinguishing feature of this course as compared to game-theory or multi-agent learning courses is the extent of multimedia networking and system specific modeling in developing the game theoretic framework driving the learning and selection of strategies and actions available to the interacting users in the studied networks and systems (e.g. wireless networks, cognitive radio networks, peer-to-peer networks). This is in contrast to much of the courses existing on game theoretic, methods in economics, which use simplistic utility functions and system settings.

Thursday, 4 December 2008 • 09:00 – 12:30 • Location: Grand Salon 21 & 24/First Level

T16: Relays and Cooperative Communication
Presenter: Aria Nosratinia, University of Texas at Dallas, USA

There has been an explosion of interest in relays and cooperative communication, both in the academia as well as the industry, owing in part to potential gains in fundamental performance, hardware improvements that allow for more sophisticated algorithms, and wide set of promising applications, among them mesh networks, 802.16j (WiMAX), and cognitive radio.

This tutorial will present an informative blend of theory and practice.

Topics to be discussed include:

- History and background
- Relaying protocols (amplify-and-forward, decode-and-forward, etc.)
- Relay performance (BER, FER, outage, diversity, multiplexing gain)
- Coded protocols for relay and cooperation
- Channel access and cooperation in the data link layer
- Cross-layer issues for relays
- Multi-relay networks and their performance limits
- Relay selection
- Practical implications: relays in WiMAX (802.11j) and beyond
- Advance topics and future research
Thursday, 4 December 2008 • 14:00 – 17:30 • Location: Grand Salon 22 & 23/First Level

T18: Design and Performance Issues in Wireless Mesh Networks

Presenters: Dharma Agrawal, University of Cincinnati, USA
Stephan Olariu, Old Dominion University, USA

Mesh networks have become increasingly important because they can be easily implemented without much infrastructure and can support adequate bandwidth with a flexible multi-hop wireless communication among their routers serving the clients. This tutorial provides an overview of the Wireless Mesh Networks (WMNs) and identifies various associated characteristics. The very first problem faced in the WMN design is how many mesh routers (MRs) to be deployed and where should they be placed. Another related question is how many MRs ought to be used as the Internet Gate Ways (IGWs) and where they should be located. Other issues such as route determination, channel allocation, load-balancing, etc. have to be considered carefully to have a clear understanding of the WMN technology. Issues such as selfishness and its impact on the performance will be discussed. Useful research directions will also be clearly identified. Future widespread deployment of the WMN seems quite promising, even through security and scalability questions still remain real bottlenecks.

Thursday, 4 December 2008 • 14:00 – 17:30 • Location: Grand Salon 10 & 13/First Level

T19: Indoor Geolocation Systems

Presenter: Ilir Progri, Giftet Inc., USA

The goal of this course is (1) to introduce pseudolite geolocation systems; (2) to classify the state of the art geolocation systems; (3) to identify the issues with the state of the art indoor geolocation systems; and (4) to propose and assess three Giftet Inc. pseudolite indoor geolocation systems. It is assessed that the current GPS and GLONASS signal structures are inadequate to overcome two main design concerns; namely, (1) the near-far effect and (2) the multipath effect. We propose three Giftet Inc. indoor geolocation systems as alternative solutions to near-far and multipath effects which are (1) C-CDMA, (2) OFDMA, and (3) MC-CDMA pseudolite indoor geolocation systems. Each system is researched, discussed, and analyzed based on its principle of operation, its transmitter, the indoor channel, and its receiver design and issues associated with obtaining an observable to achieve indoor navigation. Our assessment of these systems concludes the following.

First, a C-CDMA indoor geolocation system is a potential candidate for indoor positioning, with data rate up to 3.2 KBPS, pseudorange error, less than to 2 m and phase error less than 5 mm and overall to provide centimeter level position and velocity accuracy 99.9% of the time. Second, an OFDMA indoor geolocation system is another potential candidate with a totally different signal structure than the C-CDMA indoor geolocation systems. Third, a MC-CDMA indoor geolocation system is a potential candidate to achieve centimeter level position and velocity performance accuracy 99.999% of the time and data rate up to 5 MBPS.

Thursday, 4 December 2008 • 14:00 – 17:30 • Location: Grand Salon 16 & 19/First Level

T20: Quality-Driven Cross-Layer Design for Multimedia Communications

Presenters: Song Ci, University of Nebraska at Lincoln, USA
Haohong Wang, Marvell Semiconductors, USA

Multimedia traffic is delay-sensitive loss-insensitive which is much different from the traditional Internet data traffic. This fact indicates the need of a whole new system and network design. Recently, cross-layer design has become a popular design methodology for enhancing Quality-of-Service over various communication networks. However, most existing cross-layer designs are mainly focusing on improving network QoS in terms of throughput, delay, and jitter; user perceived quality has long been ignored in current multimedia communications. Furthermore, most existing cross-layer designs take the piecemeal approach and lack of a systematic framework of modeling and optimization, leading to suboptimal solutions and/or proprietary designs. Since for most multimedia communications, user perceived quality is the ultimate goal of communications. Thus, quality-driven cross-layer design is one of the enable technologies to the next-generation quality-aware service-oriented multimedia networks.

The aim of this tutorial is to bring together the state-of-the-art research contributions that address the various aspects of quality-driven cross-layer designs for multimedia communications.

Contents of interest include:

• Quality-driven cross-layer control and optimization framework
• Cross-layer behavior characterization
• Quality-driven cross-layer design architecture
• Analytical modeling and simulation of quality-driven cross-layer design
• Quality-driven resource management, scheduling, and admission control
• Quality-driven cross-layer MAC and routing protocols
• Content-sensitive quality-aware cross-layer design
• Quality-driven cross-layer design for TCP rate control
• Quality-aware cross-layer design for P2P streaming
• Quality-aware cross-layer optimized cooperative communications
• Design, implementation, and test-bed/experimental results of quality-driven cross-layer design
• Standardization issues and status reports from various standards organizations

Thursday, 4 December 2008 • 14:00 – 17:30 • Location: Grand Salon 21 & 24/First Level


Presenter: Behrouz Farhang-Boroujeny, University of Utah, USA

As the vast majority of the available spectral resources have already been licensed, it appears that there is little or no room to add any new services, unless some of the existing licenses are discontinued. On the other hand, studies have shown that vast portions of the licensed spectra are rarely used. This has initiated the idea of cognitive radio (CR), where secondary (i.e., unlicensed) users are allowed to transmit and receive data over portions of spectra when primary (i.e., licensed) users are inactive. This should be done in a way that the secondary users (SUs) are invisible to the primary users (PUs). The FCC Spectrum Policy task force has already set the rules for the operation of CR networks. Standard working groups, e.g., IEEE 802.22, have also been formed and are currently working on relevant documents or have finalized the standards. This tutorial addresses a range of signal processing tools that are available for both spectrum sensing and communications, in CR settings. The emphasis will be on OFDM and multicarrier filter bank techniques.
The EHF-AEROCOMM workshop will be a unique opportunity in order to discuss open issues about the exploitation of Extremely High Frequencies (EHF, domain, ranging from 30 GHz to 300 GHz) in aerospace communications (satellite, high-altitude platforms, optical communications, radar applications). The workshop will contain invited lectures and speeches, oral presentations, a technology track session devoted to technical discussions around posters and demos highlighting emerging technological developments. The workshop will be concluded by a panel session where participants will try to resume ideas, critical points, risks and future challenges emerged during sessions and invited talks.

The DANMS workshop series focuses on distributed and autonomous principles for network management and applications of those principles in network design. This year’s workshop (DANMS’08) emphasizes Service Centric Network Management.

The 2nd IEEE Workshop on Enabling the Future Service-Oriented Internet provides a forum for papers, presentations, and panel discussions that facilitate the exchange of ideas concerning service-oriented networking, an emerging paradigm for future Internet design.

The IWASP 08 workshop aims at providing a forum for leading actors from academia, industry and government worldwide to illustrate the potential of HALE Platforms and MAE UAVs (Medium Altitude Endurance Unmanned Aerial Vehicles) not only in today's communication technologies, but in a growing number of civil applications, such as navigation and positioning, earth observation, remote sensing, and more.
Session 101: Business and Regulatory Drivers in Telecommunications

Regulatory measures influence market conditions as well as business models. Panel members will discuss different regulatory policies being applied in various world regions and their consequences for the markets and business strategies.

Chair: Marcus Weinkopf, Deutsche Telekom AG, Germany

Speakers:
Diana Tomimura, ALATEL, Brazil – Field Measurements of Broadband PLC: A Case Study in the Brazilian Regulation
Shabnam Ladan, Iran Telecom Research Center, Iran – Evaluation of Migration Scenarios toward NGN Considering Economic Aspects
Khaled K. Deeb, Barry University, USA – A Survey on Network Neutrality - A New Form of Discrimination Based on Network Profiling
Dejan Siljanowski, MakTel, Macedonia – FTTx deployment in Macedonia

Session 102: Packet/Optical Network Infrastructure

Point-to-point WDM transport networks are evolving to dynamic optical networks to reduce both CAPEX and OPEX. In this session, we address enabling technologies for dynamic optical networks; optical node architectures, optical transmission technologies, and optical control plains.

Chair: Chang-Hee Lee, KAIST, Korea

Speakers:
Masahiko Jinno, NTT, Japan – Optical Transport Networks: Current Challenges and Solutions for the Future
Ho-Rang Jang, Carnegie Mellon University, USA – A Self-routing Switch Fabric Architecture on a Chip
Noritake Miyoshi, NTT, Japan – Multilevel Transmission System Using Multiple LDs and Block Receiving Technique
KwangJoon Kim, ETRI, Korea – Activities and Plans on High Speed Transmission in Korea
George Clapp, Telcordia Applied Research, USA – The Flexible, Dynamic Optical Layer: Myths and Realities

Session 103: Ambient/Ubiquitous/Pervasive Intelligence and Cognitive Systems

Networks are becoming increasingly ubiquitous, driven both by the proliferation of intelligent nodes and by expanding networking connectivity. This session investigates how this new infrastructure will be leveraged to provide ambient intelligence and cognitive services.

Chair: Geza Gordos, Budapest University of Technology & Economics, Hungary

Speakers:
Zhanshan (Sam) Ma, University of Idaho, USA – Dragonfly Inspiration for Pervasive Communications and Computing
Rongheng Lin, Beijing University of Posts and Telecommunications, China – A Social Based Ubiquitous Service Platform
Keiji Hirata, NTT, Japan – t-Room: Next Generation Video Communication System
Jiang Tao, HIT, China – Cooperative Sensing Technique in Cognitive Radio
Nikhil Kelkar, Virginia Tech, USA – A Business Model Framework for Dynamic Spectrum Access in Cognitive Networks

Session 104: Data and Network Security

In this session, we will discuss comprehensive approaches relating to security improvement in advanced telecommunications networks, new service creation based on the ring of trust, and ROI management for security measures.

Chair: Kazuhiko Ohkubo, NTT, Japan

Speakers:
Jonathan Zar, Pingalo, Inc. and the VoIP Security Alliance, USA – Privacy and Security As Assets
Satanik Panda, Ardent Collaborations, India – Genetic Algorithm based Secure Authentication Protocol with Dual Central Server and Token Authentication in Large Scale Mobile Ad Hoc Networks
Mahdi Khalesi and Mohammad A. Azgom, Iran University of Science and Technology, Iran – Towards a Trust-Based Model for Administration of Mailing Lists
Florian Winkler, NEC Europe Ltd., Germany – Enriching IPTV Services and Infrastructure with Identity Management
Darren Grabowski, NTT America Inc., USA – Global Network Pandemic – The Silent Threat
Monday, 1 December 2008 • 16:00 – 18:00 • Location: Grand Ballroom C/First Level

**Session 105: Fixed/Mobile Service Convergence**

This session highlights the latest innovations on how to manage mobility of multi-mode terminals, how to guarantee service continuity across different contexts, and how to support examples of convergent services through a fixed-mobile service platform.

Chair: Eugenio Guarene, Telecom Italia, Italy

Speakers:

Marco Liebsch, NEC Laboratories Europe, Germany – *Simultaneous Binding Extension to Proxy Mobile IPv6 as Service Enabler for Multi-Mode Mobile Devices*

Stefan Schmid, NEC Europe Ltd., Germany – *Voice Call Continuity - A Critical Step Towards All-IP based Next Generation Networks*

Fernando Soriano Vallejo, Telefonica, Spain – *IP Interconnection of Convergent Services*

A. Schülke, NEC Laboratories Europe, Germany – *Real-time SDP Personalization in a Multi-Device Environment*

Kazumine Matoba, Fujitsu Laboratories Ltd., Japan – *Architecture and Key Technologies of Next Generation Service Platform*

Ogino Nagao, KDDI Labs, Japan – *Enhanced Fixed/Mobile Converged Services Based on Context Management*

Giuseppe Piersantelli, Telecom Italia Labs, Italy – *Use of 2D Barcode to access Multimedia Content and the Web from a Mobile Handset*

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Monday, 1 December 2008 • 16:00 – 18:00 • Location: Grand Ballroom D/First Level

**Session 106: Traffic Engineering and Network Architecture for Future Networks**

This session addresses the technology trends of traffic engineering and network architecture for future networks. Traffic engineering for multi-service networks, inter-domain routing management, autonomic network management and a content-centric network architecture for the future internet are discussed.

Chair: Kohei Shiomoto, NTT, Japan

Speakers:

Stefan Schnitter, Detecon International, Germany, and Martin Homoeff; Deutsche Telekom AG, Germany – *Challenges for Class of Service aware Traffic Engineering in IP/MPLS Backbone Networks*

Roberto Kung, Director, Core Networks, Orange Labs R&D, France – *Traffic Engineering and Operational Issues in Aggregation and Core Networks with Mass Deployment of Broadband Multiservices with IPTV*

Kyriaki Levanti, Carnegie Mellon University, USA – *P2P-based Internet-wide Management of Interdomain Routing*

Gladys Díaz, Université Paris, France – *Autonomic Networks and Management of Dynamic Services Deployment: A Study of Approaches by using Overlays Networks*

M. D’Ambrosio, Telecom Italia, Italy – *Providing Data Dissemination Services in the Future Internet*

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Tuesday, 2 December 2008 • 10:00 – 12:00 • Location: Grand Ballroom C/First Level

**Session 201: Next Generation Mobile Networks**

This session will explore the drivers for next generation mobile networks (NGMN) from an operator’s perspective, as well as give insights into the capabilities and building blocks from infrastructure and terminal vendors focusing on the new radio technology, the key innovation in NGMN.

Chair: Klaus-Juergen Krath, T-Mobile International, USA

Speakers:

Yasmin Karimli, T-Mobile USA and Klaus-Juergen Krath, T-Mobile International USA – *Drivers and Challenges for Mobile Broadband*

Ali Tabassi, Sprint Nextel, USA – *XOHM – Mobilizing the Internet*

Jan Farjih, Ericsson, USA – *LTE as the Key Technology for the Next Generation*

Vish Nandlall, Nortel, USA – *Breaking the Bandwidth Barrier with New Architecture and Leveraging Innovations in Next Generation Radio Technologies - OFDM/MIMO, SDMA*

Peter Carson, Qualcomm Inc., USA – *Vision and Realization of Next Generation Mobile Broadband Devices*

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Tuesday, 2 December 2008 • 10:00 – 12:00 • Location: Grand Ballroom D/First Level

**Session 202: Fiber Access Systems**

The rapid progress of fiber access systems in recent years has put increased emphasis on their practical deployment, improvement, and evolution path. This session will consider the current deployments of EPON and GPON systems in several major operator networks around the world.

Chair: Frank Effenberger, Huawei Technologies, USA

Speakers:

Makoto Tsubokawa, NTT, Japan – *Evolution of Next Generation Access*

Jaehyung Park, Network Infra Laboratory, Korea Telecom, Korea – *FTTH Deployment Status and Strategy in Korea*


Joseph Finn, Verizon, USA – *PON Technology in the Verizon Network*

Bruno Capelle, France Telecom, France – *Evolutions for FTTH Deployment in the Access Network*
Tuesday, 2 December 2008 • 13:30 – 15:30 • Location: Grand Ballroom C/First Level

Session 203: Advanced Wireless Networks

This session covers a wide range of topics related to wireless networks including dynamic spectrum assignment, femtocells, seamless handoff, fractional frequency reuse, multihop relays, heterogeneous wireless ad hoc internet-access, and network economics considerations for wireless services.

Chair: Dilip Krishnaswamy, Qualcomm Inc., USA

Speakers:

Saied Abedi, Fujitsu Laboratories of Europe Ltd., UK – Methods for Short Term Spectrum Assignment in Wireless Networks
Do-Young Kwak, Infra Laboratory, Korea Telecom, Korea – Development of WiBro (Mobile WiMAX) Femtocell and Related Technical Issues
Sunan Han, Fujitsu Network Communications, USA – Wireless Carriers’ Transport Network Alternatives and Economic Considerations
Eun Kyoung Paik, KT, Korea – Seamless Vertical Handover Using Multihomed Mobile Access Point
Mythri Hunukumbure, Fujitsu Laboratories of Europe Ltd., UK – Advanced Techniques for Improving the QoS to the WiMAX Cell Edge User
Dilip Krishnaswamy, Qualcomm Inc., USA – AWIMA: An Architecture for Ad Hoc Wireless Mobile Internet-Access

Tuesday, 2 December 2008 • 13:30 – 15:30 • Location: Grand Ballroom D/First Level

Session 204: IP-based Services and Networks

IP-based networks have become an increasingly important component of the foundation of telecommunications infrastructure. This session examines the extensive roles of internet protocols in enabling a wide range of services ranging from voice to interactive multimedia.

Chair: Richard Wolff, Gilhousen Chair, Montana State University, USA

Speakers:

Nico d’Heureuse, NEC Laboratories Europe, Germany – Protecting SIP-based Networks and Services from Unwanted Communications
Gianfranco Ciccarella, Telecom Italia Sparkle, Italy – International Voice Service: Platform Evolution and Management Achievements
Shintaro Mizuno, NTT Laboratories, Japan – Adopting IPsec to SIP Network for On-Demand VPN Establishment between Home Networks
Kenya Kusunose, NTT DoCoMo, Japan – Establishment of IMS based Full IP Integrated Mobile Network
Gyu Myoung Lee, Institut Telecom SudParis, France – Personalized IPTV Services using Web-based Open Platform in NGN

Tuesday, 2 December 2008 • 16:00 – 18:00 • Location: Grand Ballroom C/First Level

Session 205: DSL Access and Gains from DSM

This session will include speakers from DSL service providers, DSL management companies and equipment vendors and will address topics on the management of DSL, such as DSM, technology advances, such as crosstalk mitigation, and network characterization.

Chairs: John Cioffi, Stanford University, Chairman, ASSIA Inc., USA
George Ginis, ASSIA Inc., USA

Speakers:

Angelantonio Gnazzo, Telecom Italia, Italy – Effects of Customer Premises Network on VDSL2 Performances in NGN
Gary Tennyson, AT&T, USA – Challenges in DSL Network Management
Mike Pemberton, BSKYB Ltd., UK – Dynamic Spectrum Management in the UK Environment
Guozhu Long, Huawei Technologies, USA – DSM from Theory to Practice
John Cioffi, Stanford University and ASSIA Inc., USA – Greener Copper with Dynamic Spectrum Management

Tuesday, 2 December 2008 • 16:00 – 18:00 • Location: Grand Ballroom D/First Level

Session 206: Network and Service Management

The existing OSS environment has been hard pressed to economically provision, maintain and even bill new broadband services. This panel provides carrier and vendor views on the main issues - and potential solutions - for successful operations of broadband networks and services.

Chair: Joe Betser, The Aerospace Corp., USA

Speakers:

Mijeeom Kim, KT Future Technology Laboratory, Korea – Implementation of National Traffic Information Collection Systems in Ubiquitous Environments
Kohei Shiomoto, NTT Network Service Systems Laboratories, Japan – Multi-layer Network Operation and Management for Future Carrier Backbone Networks
Kisang Ok, KT Network Technology Laboratory, Korea – Design Methodology of Operations Supporting System based on TMForum NGOSS
Makiko Hisatomi, Fujitsu Laboratories of Europe Ltd., UK – Application of Service Delivery Platform for Supply Chain Management
Giovanni Caire, Telecom Italia, Italy – Rethinking Network Management and Workforce Management through an Agent Based Platform – WADE
Enterprise Solutions for Business Continuity and Disaster Recovery Planning

ENTNET is a long-running conference organized under the Institute of Electrical and Electronic Engineers (IEEE) for the purpose of promulgating an understanding of the development and evolution of enterprise-level networking technologies. Over the years the conference has been bringing together a rich diversity of leading-edge telecom experts from industry, universities, and government. The popularity of the conference continues to grow as the premier forum for researchers, engineers, and business executives in the networking space drawing an attendance from all over the world.

Wednesday, 3 December 2008 • 10:00 – 12:00
Location: Grand Ballroom C/First Level

EntNet Opening:
Daniel Minoli, ENTNET TPC
Latif Ladid, ENTNET Keynotes Chair

Keynote 1: Dr. Nancy Victory, Chair FCC Katrina Report
Business Continuity and Disaster Recovery Planning: Lessons From Katrina

Panel 1: Emerging Communication Services for Business Continuity and Disaster Recovery (DR) Planning
Chair: Bhumip Khasnabish, Verizon Network and Technology, USA
Panelists:
Amador Lucero, QWEST, USA
QWEST Approaches to DR
Bob Desiato, AT&T, USA
AT&T Approaches to DR
Magdy A. Bayoumi, University of Louisiana, USA
DR Approaches at Universities
Bob Sellars, Mobile Systems Inc., USA,
Practical on-the-ground Wireless DR Solutions in Critical Situations

Wednesday, 3 December 2008 • 13:30 – 15:30
Location: Grand Ballroom C/First Level

Keynote 2: Dr. Paul Mockapetris, Inventor of the Domain Name System (DNS)
DNS Revolutions & Evolutions

Panel 2: Service Oriented Architecture (SOA) Applications for Network Services
Chair: Daniel Minoli, SES Engineering, USA
Panelists:
Walter Falk, IBM Global Technology Services, USA
SOA Directions in the Networking World
Sriram (Sri) Ramanathan, IBM Corporation, USA
SOA Technologies in Networking Applications
Josephine Micallef and Francesco Caruso, Telcordia Technologies, Inc., USA
SOA for Service and Network Management

Wednesday, 3 December 2008 • 16:00 – 18:00
Location: Grand Ballroom C/First Level

Panel 3: Communication Advances for the Oil, Gas, and Energy Industries
Chair: David Yates, Bentley University, USA
Panelists:
Darryl d’Aquin, CommTech Industries, USA
Next Generation Telecommunication Needs for Offshore Oil and Gas Facilities
Loy Evans and Scott Kirby, Cisco Systems, USA
Network Extension Across the Oil Field
Kim Jovanovich, Omni Technologies Inc., USA
From Energy Exploration to Business Intelligence: Networked Applications for the Oil and Gas Industry
Rajgopal Kannan, Louisiana State University, USA
Flexible and Reliable Communication Architectures for Oilfield Systems
Raife F. Smith II, Southern University, USA
Security Optimization for the Digital Oilfield

EntNet Closing, Daniel Minoli, ENTNET TPC
Latif Ladid, ENTNET Keynotes Chair

THE ROAD TO THE FUTURE

Wednesday, 3 December 2008 • 10:00 – 12:00 • Location: Grand Ballroom D/First Level

IEEE Graduates of the Last Decade (GOLD) Panel!

Founded in 1996, GOLD aims to help young professionals make a smooth transition from being a student to entering the professional world. The GOLD Panel will bring together world-renowned scholars, researchers, practitioners, and business leaders from academia, industry, and government to discuss issues of interest to both students and young professionals who are in their early stages of career planning. Each panelist will give a short presentation, and a Question & Answer section will follow. Come along to share your ideas.

Panelists:
Vincent Chan, Massachusetts Institute of Technology, USA
Andrea Goldsmith, Stanford University, USA
Joseph T. Massey, Jr., JTM Associates, Inc., USA
Tim Holliday, Goldman Sachs, USA
Kevin Yu, Google, USA
Joseph Soriaga, Qualcomm Inc., USA

IEEE GLOBECOM 2008
Building a Better World Through Communications
Steamboat NATCHEZ Dinner / Jazz Cruise “Social Event”
Sunday, 30 November  •  18:00 – 21:00

New Orleans School of Cooking
Monday, 1 December  •  9:30 – 13:00
Join in for some fun, food and folklore in the comfortable atmosphere of a Louisiana homestyle kitchen to learn the secrets of authentic Creole cooking. The “City That Care Forgot” never forgets about its food, and you will never forget it either. During this entertaining three-hour long class you’ll learn to recreate the magic of New Orleans in your own kitchen. Located in a renovated molasses warehouse built in the 1800’s in the heart of the French Quarter, the cooks at The New Orleans School of Cooking teach New Orleans specialties such as Gumbo, Jambalaya and Pralines, and season them with history, trivia and tall tales. It’s a “ga-ron-teed” good time for all! Walk to NOSOC is approximately 0.6 miles.

Oak Alley Plantation Tour with Lunch
Tuesday, 2 December  •  9:00 – 14:30
Feel the gentle breeze of southern hospitality on a tour that takes you back to a time of mint juleps, gracious living and the glory of the Old South. Experience a bygone era in one of the South’s most beautiful settings - Oak Alley Plantation, built in 1839. Marvel at the unbelievable view of a quarter-mile long alley of 28 magnificent oak trees, each over 250 years old. Listen to fascinating and amusing stories of the home and its history, presented by your professional guide. Along the way, view majestic Cypress trees in the swamps bordering the mighty Mississippi River.

City Tour with Lunch at Longue Vue House
Wednesday, 3 December  •  9:00 – 13:00
See the landmarks and architecture and listen to the legends and charm that make New Orleans famous! Three hundred years of entertaining history about “America’s Most Interesting City” make this tour our visitor’s favorite. During your City Tour stop for lunch and tour of Longue Vue House and Gardens, a classical city estate which boasts of American and English antiques, French and Oriental carpets, and a fine pottery collection. The Longue Vue House is one of the last great houses to be custom-built in America, taking the Platt brothers three years (1939-1942) to create. Eight acres of gardens surround the house in a variety of planting styles and layouts. This Classical Revival style house consists of three stories and a basement, an unusual feature of New Orleans where most of the city is below sea level.
IEEE GLOBECOM 2008 Badges and Tickets
IEEE GLOBECOM 2008 Badges must be worn at all times and are necessary for entrance into all IEEE GLOBECOM sessions. Tickets are required for the Awards Luncheon and the Conference Banquet.

Conference Location
The conference will be held at the Hilton New Orleans Riverside. It is in a prime downtown location on the banks of the Mississippi. The Riverwalk (shopping mall) is at the hotel’s doorstep! It also features a newly renovated 90,000 sq. ft. Health Club by Hilton featuring tennis, racquetball, full weight training circuit and the Precor® cardio theater. Stimulate your palate within Drago’s Seafood Restaurant, a New Orleans dining institution, home of the original charbroiled oyster. Try your hand at Harrah’s Casino or take in a round of golf at the TPC Louisiana.

Registration
The Registration will take place in the Hilton Exhibition / Second Level of the Hilton. The Conference Information Desk is adjacent to the Registration area. All attendees and accompanying guests must register and receive a conference badge in order to participate in conference activities.

Registration and Information Desk Hours:
Sunday, 30 November 7:00 – 17:00
Monday, 1 December 7:00 – 18:30
Tuesday, 2 December 7:00 – 17:00
Wednesday, 3 December 7:00 – 17:00
Thursday, 4 December 7:00 – 17:00

Conference Meals
Awards Luncheon
Monday, 1 December 2008 • 12:10 – 13:40
(Included with full registration)

Welcome Reception & EXPO Opening
Monday, 1 December 2008 • 19:00 – 21:30
(Included with conference registration fee)

Conference Banquet
Tuesday, 3 December 2008 • 19:00 – 22:00
(Included with full registration)

IEEE GLOBECOM/EXPO 2008
IEEE GLOBECOM/EXPO 2008 is located in the Hilton Exhibition Center.

The EXPO Hall Hours:
Monday, 1 December 19:00 – 21:30
Tuesday, 2 December 9:30 – 17:00
Wednesday, 3 December 9:30 – 17:00

Coffee Breaks
Coffee breaks will be held in the Hilton Exhibition Center on the Second Level.
Tuesday, 2 December and Wednesday 3 December at 9:30 – 10:00 and 15:30 – 16:00.

Internet Access
The Internet Café will be open during registration hours. IEEE GLOBECOM 2008 will offer free wireless access. Additionally, guest rooms at the hotel have data ports and are equipped with high-speed internet access for an additional charge from the hotel.

Speaker Ready Room
The Windsor Room located on the third floor will be our Speaker Ready Room. The room has been set aside as the speaker rehearsal room complete with overhead and LCD projector will be available Sunday – Thursday from 8:00 - 17:00 for any presenters who wish to rehearse and prepare for their presentations.

Speaker Breakfast
Technical Symposium and D & D Speakers / Presenters are required to attend the Speakers Breakfast on the morning of their presentation. The breakfast will be held from 7:00 – 8:00 in the Versailles Ballroom on the 3rd Floor Monday – Wednesday.

Student Travel Grants
Student Travel Grant Recipients will receive their certificates at the Speakers Breakfast. Please plan on attending this event on the day that you are presenting your paper scheduled from Monday – Wednesday from 7:00 – 8:00.

General Attendee Information
Business Center
The full service business center at the Hilton New Orleans Riverside is located on the 2nd floor. Hours are:
7:00 – 18:00 Monday through Friday,
9:00 – 17:00 Saturday, closed on Sunday

The 24 hour self serve business center is located on the third floor. Credit card is needed.

Companion Hospitality
Companions are invited to begin their daily activities in the Companion Hospitality room with coffee and a pastry. This venue is located in the Audubon Suite #2443 on the 24th floor of the Hilton. Meet your friends prior to one of the daily tours being offered (tours will leave from the side entrance of the Hilton) or to make your plans for the day.

Stop by and receive a gift reserved for each companion. In addition, we will have daily door prize drawings. A brief presentation will be made by one of the principals of Drago’s Restaurant, including a description of their involvement with the community after Hurricane Katrina struck the area in 2005.

The room is open 8:00 – 16:00 Monday through Wednesday and 8:00 – 12:00 on Thursday. Please note that this venue is for companions only. Your conference badge will be required for admittance.

Language
All Conference Sessions and Publications will be in English.

Tipping
This is part of the American way of life, based on the principle that you should pay for any special service.

Here are some examples:
- Bartenders: 10%-15%; bellhops: at least $2 per bag or $5-$8 for a lot of baggage; taxi drivers: 15% of the fare; airport attendants: $1 per bag or $2-$3 for a lot of baggage; valet parking attendants: $2.

Cell Phones/PDAs/Laptops/Beepers
Please be cognizant and respectful of your fellow conference attendees and speakers. During sessions please lower the volume on your electronic devices and put your phones on vibrate mode.

Environmental Contributions
This year we are taking some steps to assist in reducing waste & contributing to preserving the environment.
• In an effort to environmentally conscience at the end of the conference please return your badge and lanyard. (The lanyards are made out recycled soda bottles.)
• There will be a box at the registration area for you to return these times. Thank you in advance for assisting us with this effort.
• ALL EVALUATION FORMS will be filled out online. Your session presenter will give you the url for the evaluation form. Please be sure to take the time (you can always do so at the Internet Café) to fill out the forms. We value your feedback. You will receive an email after the conference for the overall evaluation of the event.
• Some of the tutorial and workshop materials are on USB sticks instead of paper.

We hope you will be cognizant about the amount paper and electricity that you use while at the event.

Traveling Around New Orleans
New Orleans is one of the world’s busiest ports and the cultural capital of the South, yet the city is remarkably compact and easy to navigate. Visitors are always pleasantly surprised to learn that many of the city’s attractions and event venues are within walking distance of each other; in fact, “hoofing it” (in New Orleans’ case, translated as walking or grabbing a mule-drawn-carriage) is a favorite means of transportation in the Crescent City.

But, if you prefer wheels to legs, New Orleans has a very accessible and reasonably priced public transportation system, too. It only costs $1.25 to take an RTA bus or one of the city’s famed street-cars, which travel the Riverfront and Canal Street. You can also grab a taxi right outside the Hilton Riverside.
On the human network, the whole world is a lab. Welcome to a place where web applications mash together and create new experiences. Where marketers turn to customers to invent new products. Where researchers tap into collaborative intelligence to find new cures faster. Where everyone joins together to make things better. All it takes is a network. The story continues at cisco.com/go/sp.

welcome to the human network.
Thank you to our patrons for supporting IEEE GLOBECOM 2008.
IEEE ICC 2009
Booth Number: 407
Web Site Address: www.ieee-icc.org/2009

IEEE ICC 2009 will be held in Dresden, Germany from 14 - 18 June 2009. As in previous years, the program will consist of major Symposia, Keynotes and Panel Discussions, Workshops and Tutorials. Besides, ICC 2009 features an integrated exhibition.

IEEE GLOBECOM 2009
Booth Number: 407
Web Site Address: www.ieee-globecom.org/2009

IEEE GLOBECOM 2009, with the theme “Riding the Wave to Global Connectivity,” will be held in Honolulu, Hawaii, USA from 30 November - 4 December 2009. Its high quality technical program will have sessions, tutorials and workshops with the latest breakthroughs, and its EXPO will feature a Design & Development Forum, Access Networks Forum, and Enterprise Networking Forum. This, in addition to a CEO Forum and Keynotes from top leaders in the field, will appeal to managers, researchers and practitioners from industry, academia and government from around the world. Please join us at the ‘meeting place of the world’ to network with colleagues and advance your career!

IEEE GLOBECOM 2010
Booth Number: 407
Web Site Address: www.ieee-globecom.org/2010

IEEE GLOBECOM 2010 will be held in Miami, USA from 28 November - 3 December 2009. Its high quality technical program will have paper sessions, tutorials, workshops and panels with the latest breakthroughs and its EXPO will appeal to top industry, academic and government leaders and practitioners through a Design & Developers Forum, Access Networks Forum and Enterprise Networking Forum, as well as a CEO Forum and Keynotes from top leaders in the field. Please join us in beautiful Miami to network with colleagues as well as enjoy the nice weather and sunshine on the beach!
IEEE GLOBECOM 2009 will feature a comprehensive technical program including several Symposia and a number of Tutorials and Workshops. IEEE GLOBECOM 2009 will also include an attractive expo program including keynote speakers, various Business, Technology and Industry fora, and vendor exhibits. Prospective authors are invited to submit original technical papers for presentation at the conference and publication in the Proceedings. Proposals for Tutorials, Workshops, and Fora are also invited. Visit the IEEE GLOBECOM 2009 website: http://www.ieee-globecom.org/2009 for details and submission information.

**TECHNICAL SYMPOSIA**

IEEE GLOBECOM 2009 will feature the following 11 technical symposia. For further details, please contact individual co-chairs or Symposia Chair, Stefano Bregni, stefano@die.uniroma1.it.

- Communication Theory Symposium
  - Lars Rasmussen, lars.rasmussen@unisa.edu.au
  - Merouane Debbah, merouane.debbah@supelec.fr
  - Elza Erkip, elza@polyu.edu
  - Syed Ali Jafar, syed@uic.edu

- Communication QoS, Reliability and Modeling Symposium
  - Fabrizio Granelli, granelli@disi.unin.it
  - Hajime Nakamura, nakamura@kddilabs.jp

- Communication Software and Services Symposium
  - Young-Tak Kim, ytkim@yu.ac.kr
  - Pascal Lorenz, plorenz@ieee.org
  - Bipab Sidhak, sidhakb@ripi.edu
  - Qian Zhang, qianzr@cs.ust.hk

- Next-Generation Networking and Internet Symposium
  - Nasir Ghani, nghani@ece.unr.edu
  - Ashwin Gomaste, ashwing@ieee.org
  - Xiaoming Fu, fuxi@cs.uni-goettingen.de
  - Deep Medhi, dmedhi@umkc.edu

- Consumer Networks, Data Storage, Satellite and Space Technologies for Access Systems and Networks Symposium
  - Fabio Bonomi, fabio@polito.it
  - Yannis Vlassis, yannis@lasig.polito.it
  - Cristiano Giordano, cristiano@lasig.polito.it

- Next Generation Wireless Access Systems and Networks Symposium
  - Sameh El-Rewini, s.rewini@unimelb.edu.au
  - Abdulrahman Al-Rizzo, alrizzo@ece.ufl.edu
  - Amin Khabbazian, amin@ece.ucdenver.edu

- Optical Networks and Systems Symposium
  - Alberto Bononi, bononi@tice.unipr.it
  - Galen Sasaki, galens@hawaii.edu
  - Naoko Yamanaka, yamanaka.naoko@ieee.org
  - Arunita Jaelke, arunita@uwindsor.ca

- Signal Processing for Communications Symposium
  - Hung Henry Nguyen, hung.h.nguyen@ntu.edu
  - Tomohiko Taniguchi, t-taniguchi@jp.fujitsu.com
  - Hsiao-Chun Wu, wuvc@ece.tsu.edu

IEEE GLOBECOM 2009 will also include an attractive expo program including keynote speakers, various Business, Technology and Industry fora, and vendor exhibits. Prospective authors are invited to submit original technical papers for presentation at the conference and publication in the Proceedings. Proposals for Tutorials, Workshops, and Fora are also invited. Visit the IEEE GLOBECOM 2009 website: http://www.ieee-globecom.org/2009 for details and submission information.

**EXPO PROGRAM**

IEEE GLOBECOM 2009 will feature several prominent keynote speakers, four major business and technology fora, and a large number of vendor exhibits. For vendor exhibits, please contact Exhibits Chair, Jerry Gibbon, jgibbon@hotmail.com; for keynote speakers, please contact Keynote Chair, Mahmoud Daneshmand, daneshmand@att.com; and for the expo, please contact appropriate chairs.

**Business, Technology, and Industry Fora Chair:**
Chi-Ming Chen, chimchingchen@att.com

**Designers & Developers Forum:**
Jeff Friedhofner, jfried@ieee.org

**CEO Forum:**
Matt Bross, matt.bross@bt.com

**ACCESS Executive Forum:**
Dave Waring, dwaring@telcordia.com

**EntNet Business Forum:**
Daniel Minoli, minoli@comcast.net

- Communication Theory Symposium
  - Lars Rasmussen, lars.rasmussen@unisa.edu.au
  - Merouane Debbah, merouane.debbah@supelec.fr
  - Elza Erkip, elza@polyu.edu
  - Syed Ali Jafar, syed@uic.edu

- Communication QoS, Reliability and Modeling Symposium
  - Fabrizio Granelli, granelli@disi.unin.it
  - Hajime Nakamura, nakamura@kddilabs.jp

- Communication Software and Services Symposium
  - Young-Tak Kim, ytkim@yu.ac.kr
  - Pascal Lorenz, plorenz@ieee.org
  - Bipab Sidhak, sidhakb@ripi.edu
  - Qian Zhang, qianzr@cs.ust.hk

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  - Nasir Ghani, nghani@ece.unr.edu
  - Ashwin Gomaste, ashwing@ieee.org
  - Xiaoming Fu, fuxi@cs.uni-goettingen.de
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  - Amin Khabbazian, amin@ece.ucdenver.edu

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  - Galen Sasaki, galens@hawaii.edu
  - Naoko Yamanaka, yamanaka.naoko@ieee.org
  - Arunita Jaelke, arunita@uwindsor.ca

- Signal Processing for Communications Symposium
  - Hung Henry Nguyen, hung.h.nguyen@ntu.edu
  - Tomohiko Taniguchi, t-taniguchi@jp.fujitsu.com
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**TUTORIALS**

Proposals are invited for half- or full-day tutorials in communication and networking topics. Proposals should be submitted to Tutorials Chair, Nelson Fonseca, nfonseca@ic.unicamp.br. Visit the conference website for detailed proposal guidelines.

**WORKSHOPS**

Proposals are invited for half- or full-day workshops in communication and networking topics. Proposals should be submitted to Workshops Chair, Rolf Stadler, stadler@ee.kth.se. Visit the conference website for detailed proposal guidelines.

**EXECUTIVE COMMITTEE**

**General Chair:**
Douglas N. Zuckerman

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**Expo Chair:**
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**Professional Development Chair:**
Robert Walp

**Conference Operations Chair:**
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**IMPORTANT DEADLINES**

- Complete Paper: 15 March 2009
- Tutorial Proposal: 15 March 2009
- Workshop Proposal: 15 March 2009
- Acceptance notification: 1 July 2009
- Camera-ready papers: 14 August 2009