RIDING THE WAVE TO GLOBAL CONNECTIVITY

30 November - 4 December 2009 • Hilton Hawaiian Village, Honolulu, Hawaii, USA

IEEE GLOBECOM 2009

GLOBAL COMMUNICATIONS CONFERENCE
EXHIBITION & INDUSTRY FORUM

HONOLULU, HAWAII, USA

FINAL PROGRAM

Co-Located Event: GEOSS Workshop

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IEEE COMMUNICATIONS SOCIETY

IEEE GLOBECOM 2009 PROGRAM (30 November 2009 & 4 December 2009)

7:45	Monday, 30 November				Tuesday, 1 December	Wednesday, 2 December	Thursday, 3 December	Friday, 4 December	
9:00 - 10:30	Morning Tutorials	Wkshps	GEOSS WKSHP	IPv6 Forum	Keynote Forums Technical Symposia Business Forums Special Sessions Professional Development Activities Social Activities			Morning Tutorials	Wkshps
10:30-11:00	Coffee Break							Coffee Break	
11:00 - 12:30	Morning Tutorials (cont'd)	Wkshps (cont'd)	GEOSS WKSHP	IPv6 Forum				Morning Tutorials (cont'd)	Wkshps (cont'd)
12:30 - 14:00	Lunch Break							Lunch Break	
14:00 - 15:30	Afternoon Tutorials	Wkshps (cont'd)	GEOSS WKSHP	IPv6 Forum				Afternoon Tutorials	Wkshps (cont'd)
15:30 - 16:00	Coffee Break							Coffee Break	
16:00 - 17:30	Afternoon Tutorials (cont'd)	Wkshps (cont'd)	GEOSS WKSHP	IPv6 Forum				Afternoon Tutorials (cont'd)	Wkshps (cont'd)
18:30 - 21:30	GOLD Reception and Session		WiCE Reception						

Note: Please note that some workshops may have slightly different schedules.
Please check the individual workshop programs to determine the exact schedule.

IEEE GLOBECOM 2009 PROGRAM (1 - 3 December 2009)

	Tuesday, 1 December				Wednesday, 2 December					Thursday, 3 December					
7:45 - 9:45	CEO Forum				Industry Leader Forum					Technology Leader Forum					
9:45 - 10:15	Coffee Break				Coffee Break				Exhibits	Coffee Break					Exhibits
10:15 - 12:15	Tech Oral Sessions	Tech. Poster Sessions	D&D Forum	EntNet Forum	Tech Oral Sessions	Tech. Poster Sessions	D&D Forum	Access Forum		Tech Oral Sessions	Tech. Poster Sessions	D&D Forum	Access Forum	Comm History Panel	
12:15 - 14:00	Awards Luncheon				Lunch Break (on your own)					Lunch Break (on your own)					
14:00 - 16:00	Tech Oral Sessions	Tech. Poster Sessions	D&D Forum	EntNet Forum	Tech Oral Sessions	Tech. Poster Sessions	D&D Forum	Access Forum		Tech Oral Sessions	Tech. Poster Sessions	D&D Forum	Access Forum	IEEE HTC Panel	
16:00 - 16:30	Coffee Break				Coffee Break					Coffee Break					
16:30 - 18:30	Tech Oral Sessions	Tech. Poster Sessions	D&D Forum	EntNet Forum	Tech Oral Sessions	Tech. Poster Sessions	D&D Forum	Access Forum		Tech Oral Sessions	Tech. Poster Sessions	D&D Forum	WiCE Panel		
19:00 - 21:30	Exhibit Opening & Welcome Reception				Conference Banquet (Luau)										

TABLE OF CONTENTS

Program-at-a-Glance ..... IFC
Committees 2
Welcome 3
Technical Symposia Chair's Welcome 4
Keynote Forums 5
Business Forums 8
Technical Symposia 13
Tutorials 60
Workshops 63
Special Sessions 65
Co-Located Event 66
Professional Development Forums 67
Technical Committees 68
Author / Speaker Index 70
Social Events & Tours 79
General Information 80
Hilton Hawaiian Village Floor Plans 81
Exhibitors 83
IEEE GLOBECOM 2010 Call For Papers ..... IBC

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TECHNICAL SYMPOSIA CHAIRS

Ad Hoc, Sensor and Mesh Networking Symposium
Chairs:
Azzedine Boukerche, University of Ottawa
Nizar Bouabdallah, INRIA
Chunxiao Tricia Chigan, Michigan Tech
Ashfaq Khokhar, University of Illinois at Chicago

Communications and Information Security Symposium
Chairs:
Abderrahim Benslimane, LIA/CERI
Stamatios V. Kartalopoulos, University of Oklahoma
Guenter Schaefer, Technical University of Ilmenau

Communications Software and Services Symposium
Chairs:
Pascal Lorenz, University of Haute Alsace
Young-Tak Kim, Yeungnam University
Biplab Sikdar, Rensselaer Polytechnic Institute
Qian Zhang, Hong Kong University of Science and Technology

Communications Quality of Service, Reliability and Performance Modeling Symposium
Chairs:
Fabrizio Granelli, DISI, University of Trento
Hajime Nakamura, KDDI R&D Labs. Inc.

Communications Theory Symposium
Chairs:
Mérouane Debbah, SUPELEC
Elza Erkip, Polytechnic Institute of NYU
Syed Ali Jafar, University of California, Irvine
Lars K. Rasmussen, University of South Australia

NGNI - Next Generation Networking and Internet Symposium
Chairs:
Nasir Ghani, University of New Mexico
Ashwin Gumaste, IIT Bombay/ MIT
Xiaoming Fu, University of Goettingen
Deep Medhi, University of Missouri-Kansas City

Optical Networks and Systems Symposium
Chairs:
Alberto Bononi, Università di Parma
Arunita Jaekel, University of Windsor
Galen Sasaki, University of Hawaii
Naoaki Yamanaka, Keio University

Signal Processing for Communications Symposium
Chairs:
Hung Henry Nguyen, The Aerospace Corporation
Tomohiko Taniguchi, Fujitsu Laboratories Limited
Hsiao-Chun Wu, Louisiana State University

Wireless Communications Symposium
Chairs:
Cheng Li, Memorial University of Newfoundland
Robert Schober, University of British Columbia
Jingxian Wu, University of Arkansas
Alberto Zanella, National Research Council (CNR)

Wireless Networking Symposium
Chairs:
Tarik Taleb, NEC Europe Ltd.
Jiang (Linda) Xie, University of North Carolina, Charlotte
Maria Luisa Merani, University of Modena and Reggio Emilia

Selected Areas in Communications Symposium
Chair:
Tarek El-Bawab, Jackson State University

SAC (CRN) - SAC-Cognitive Radio Networks
Track Chair:
Mainak Chatterjee, University of Central Florida

SAC (CN) - SAC-Consumer Networks
Track Chair:
Kwang-Cheng Chen, National Taiwan University
Track Vice Chair:
Phone Lin, National Taiwan University

SAC (DS) - SAC-Data Storage
Tack Chair:
M. Fatih Erden, Seagate Technology
Track Vice Chair:
Hao Zhong, LSI Corporation

SAC (ET) - SAC-Emerging Technologies for Access Systems and Networks
Track Chair:
Masaaki Katayama, Nagoya University

SAC (SSC) - SAC-Satellite and Space Communications
Track Chair:
Claudio Sacchi, University of Trento

General Chair
Doug Zuckerman

It is our great pleasure to WELCOME you to the IEEE Global Communications Conference, IEEE GLOBECOM 2009,

30 November – 4 December 2009 in Honolulu, Hawaii.

Vice General Chair
Ross Anderson

Hawaii is the central meeting place of the Pacific, if not the world. The setting of the IEEE Communications Society's premier flagship conference in beautiful Hawaii will provide a unique opportunity to explore the hottest areas of information and communications technology related to industry, academia, government, enterprise and other market segments from around the world. The Honolulu venue will also offer participants - and those accompanying them - an opportunity to explore the paradise of the Hawaiian islands. In this idyllic setting, you will be able to network with friends, colleagues, customers and vendors from around the world.

The theme of IEEE GLOBECOM 2009, "Riding the Wave to Global Connectivity," is specifically matched to the conference location, setting the conference's focus on leading edge coverage of communications with and across all parts of our planet (and beyond). IEEE GLOBECOM 2009 features:

Technical Program

- Technical Symposia - providing numerous technical sessions with papers presenting the latest technical advances through peer-reviewed paper sessions.
- Tutorials - offering education for keeping up with new and emerging topics essential to today's engineering and technology environment.
- Workshops - with specialized focus on the latest breakthroughs in information and communications technology in an environment that encourages discussion and debate

Communications Exhibition (EXPO)

- Keynote Forums - top industry leaders share their visions and experiences, and challenge us in exciting, new ways.
- Business Forums - featuring exciting panel sessions on Design & Development, Enterprise Networking, Access (e.g., "the last mile") and IPv6.
- Exhibits - where major vendors and service providers have the opportunity to display their latest products and services.
- Co-Located Events - Global Earth Observation System of Systems (GEOSS) Workshop on Mitigation and Management of Disasters through Communications

Professional Development

- Career Forums - dedicated to students, entrepreneurs and anyone interested in furthering their career development, featuring groups such as Women in Engineering (WIE) and Graduates of the Last Decade (GOLD).

Our goal is to make your participation in IEEE GLOBECOM 2009 one of the most valuable and memorable experiences of your life from both professional and personal perspectives. Welcome to Hawaii!

Aloha,
Doug and Ross

TPC Chair
Mehmet Ulema

On behalf of the entire Technical Program Committee, I welcome you to IEEE GLOBECOM 2009 in Honolulu, USA!

The IEEE GLOBECOM 2009 program committee put together an outstanding program including 11 technical symposia, 10 workshops, and 24 tutorials. In addition, a comprehensive list of business forums and special sessions will bring top experts together from both the industry and academia to provide a wide set of perspectives, practices, and technical expertise.

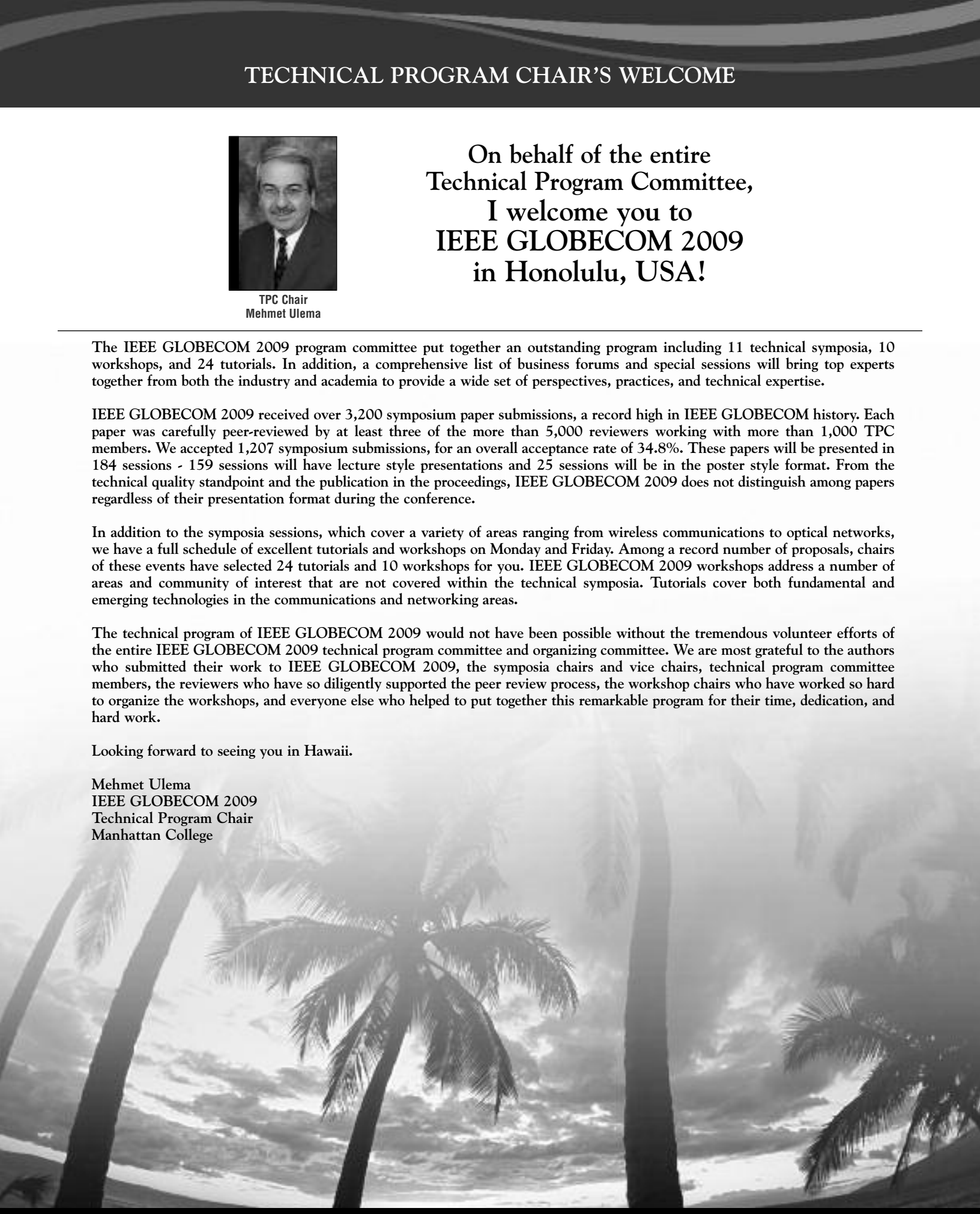
IEEE GLOBECOM 2009 received over 3,200 symposium paper submissions, a record high in IEEE GLOBECOM history. Each paper was carefully peer-reviewed by at least three of the more than 5,000 reviewers working with more than 1,000 TPC members. We accepted 1,207 symposium submissions, for an overall acceptance rate of 34.8%. These papers will be presented in 184 sessions - 159 sessions will have lecture style presentations and 25 sessions will be in the poster style format. From the technical quality standpoint and the publication in the proceedings, IEEE GLOBECOM 2009 does not distinguish among papers regardless of their presentation format during the conference.

In addition to the symposia sessions, which cover a variety of areas ranging from wireless communications to optical networks, we have a full schedule of excellent tutorials and workshops on Monday and Friday. Among a record number of proposals, chairs of these events have selected 24 tutorials and 10 workshops for you. IEEE GLOBECOM 2009 workshops address a number of areas and community of interest that are not covered within the technical symposia. Tutorials cover both fundamental and emerging technologies in the communications and networking areas.

The technical program of IEEE GLOBECOM 2009 would not have been possible without the tremendous volunteer efforts of the entire IEEE GLOBECOM 2009 technical program committee and organizing committee. We are most grateful to the authors who submitted their work to IEEE GLOBECOM 2009, the symposia chairs and vice chairs, technical program committee members, the reviewers who have so diligently supported the peer review process, the workshop chairs who have worked so hard to organize the workshops, and everyone else who helped to put together this remarkable program for their time, dedication, and hard work.

Looking forward to seeing you in Hawaii.

Mehmet Ulema
IEEE GLOBECOM 2009
Technical Program Chair
Manhattan College



Tuesday, 1 December 2009 • 7:45 – 9:45 • Location: Tapa Ballroom 2 & 3
Chair: Matt Bross, Global CTO, Huawei Technologies

The planet is witnessing a major transformation in the telecommunications industry, with the morphing of the traditional telco into an emerging softco. This transformation is driven as a result of the infrastructures from the past not being capable to move/change/adapt on the same time cycles as customer needs. Innovation must come increasingly on software cycle times versus legacy hardware infrastructure-based cycle times in order to meet customer expectations. This emerging customer expectation drives the need for more agile development. There are three key factors that interplay in the transformation of service providers from a telco to a softco. They are web services (such as Web 2.0), software-driven platforms and next-generation network technologies.

In this forum, executive-level speakers will address strategies for:
- Delivering service innovation;
- Unlocking the investments being made in broadband;
- Future networks such as NGN; and
- System-software processes enabling service providers to effectively compete in the 21st century.

Speakers:

DooWhan Choi - President, Korea Telecom

Dr. Choi is President of KT in charge of Service Design and New Business Development of KT. He rejoined the executive team of KT in late 2006 along with his years of experience in the areas of telecommunication equipment, wireless services, and media business. He previously worked at KT from 1991 to 1994 as Managing Director in charge of both fiber optic systems R&D and PCS systems R&D. Prior to joining KT, in 1991, he was the Member of Technical Staff of Bell Labs from 1984 to 1988, and Distinguished Member from 1988 to 1991. After that, Dr. Choi's professional career included Executive Vice President & CTO of HanChang Group, and Founder and CEO of NeoWave, Inc.

Hossein Eslambolchi - Chairman & CEO, 2020 VP

Dr. Hossein Eslambolchi is chairman of 2020 Venture Partners, which provides technology and operations consulting to private equity firms and venture capitalists in the area of telecommunications infrastructure. He was also chairman and CEO of Divvio Inc., a Web portal that allows users to build personalized "channels" of digital content by leveraging the best and most advanced adaptive learning technologies and Web 2.0 community behavior.

For nearly two decades, Dr. Eslambolchi led the transformation of AT&T's network, systems and services. He left AT&T soon after its merger with SBC in late 2005. Upon his departure, BusinessWeek called him "a critical player in maintaining AT&T's status as a technology leader" (Dec. 30, 2005) and noted that he is "a bold, but pragmatic, visionary."

Howard Janzen - CEO, One Communications

Mr. Janzen is CEO of One Communications - the largest privately-held, multi-regional integrated telecommunications solutions provider in the United States. The company serves 160,000 small and mid-sized business customers in 18 states across the Northeast, Mid-Atlantic and Upper Midwest, plus the District of Columbia.

Janzen has more than 30 years of experience in the telecommunications and energy industries. Prior to joining One Communications, he was president of Sprint Business Solutions, where he was responsible for Sprint's $12 billion worldwide business customer base, ranging from small business to Sprint's largest domestic and international accounts. His responsibilities included integration of Sprint's wireless, wireline, local voice and data services. Previously, he served as president of the Sprint Global Markets Group, responsible for its long distance business.

Shyue-Ching Lu - Chairman & CEO, Chunghwa Telecom

Dr. Shyue-Ching Lu has been Chairman of Chunghwa Telecom since August 2008. Before that, he was the President since 1996. Prior to Chunghwa Telecom, he served as the Deputy Director General of Directorate General of Telecommunications (DGT), Director General at Department of Posts and Telecommunications, Ministry of Transportation and Communication, and Managing Director, Telecommunication Laboratory.

During these years, Dr. Lu was involved in transforming DGT, a government agency, into a state-owned enterprise- Chunghwa Telecom (CHT). After this restructuring, the state-owned CHT immediately faced the competition from liberalized mobile market. Under Dr. Lu's leadership, CHT managed to compete effectively and maintains the leading position in the mobile market.

Nate L. Smith - CEO, Time Warner Cable – Hawaii

Mr. Smith is the President of Oceanic Time Warner Cable, which serves the entire state of Hawaii with video, high speed data and telephone services. Technology plays a huge role in Oceanic Time Warner Cable's ever-evolving concepts and Smith and his team always keep up with the latest. Mr. Smith believes that using the strengths of the two primary mediums (the television and computer) and figuring out where everybody is going and getting in front is the best way to keep Oceanic at the top. The television has its own functions, as does the home computer, but Oceanic is trying to discover ways for customers to use those units to interchangeably work with one another's features; and then when you add to the equation the advantages of wireless devices, you get more diversity and mobility, which is so important to people today.

SPECIAL PRESENTATION BY IEEE PRESIDENT
Wednesday, 2 December 2009 • 7:45 – 8:00 • Location: Tapa Ballroom 2 & 3

John Vig - IEEE President

We are very pleased to announce that the IEEE President, John Vig, will give a special presentation associated with the IEEE's 125th Anniversary, which is being celebrated worldwide during 2009. This presentation will take place just before the Industry Leader Forum on Wednesday morning.

Wednesday, 2 December 2009 • 8:00 – 9:45 • Location: Tapa Ballroom 2 & 3
Chair: Adam T. Drobot, CTO & President, Advanced Technology Solutions, Telcordia Technologies

The world's communications and information systems are rapidly accelerating their scale, scope and impact. Extending well beyond traditional telecom offerings, new services and applications are becoming embedded components in nearly every vertical. These developments are driving the growth in capacity and interoperability of the underlying infrastructure. The resulting need for truly global interconnectivity presents historic opportunities - and challenges.

Speaking from their own experiences, this session's panel of industry executives will address several critical aspects of global deployments, including:
- What are the most difficult remaining challenges in achieving true global connectivity?
- Which emerging technologies are now being favored to dominate the major infrastructure, and wireless, fiber, business and residential markets?
- What services and applications will lead the surge towards a truly Digitized Society?
- How will corporate research, development and marketing strategies evolve to reflect the unique demands of global markets?

Speakers:

Ibrahim Geodeon - CTO, TELUS Communications Inc.

Ibrahim Gedeon, as the Chief Technology Officer, is responsible for technology strategy, network and services architecture and network support systems for TELUS Communications Inc. In his role as CTO, he is responsible for the Wireless-Wireline service and network convergence, enterprise applications and network infrastructure strategies and evolution.

Mr. Gedeon began his career in telecommunications engineering and research in 1990 when he joined Bell Northern Research designing signal-processing software in the cryptographic systems division. He moved to Nortel Networks in 1994 as a network design engineer, where he provided technical network design expertise to Nortel Networks' customer base globally. He was named vice president and director of Data Network Engineering at Nortel in 1996, and vice president of Internet Brand Management in 1999, where he was responsible for IP/MPLS/ATM standards, engineering, and market development.

Youngky Kim - Executive VP, Samsung

At Samsung Electronics, Dr. Youngky Kim is currently responsible for LTE end-to-end system development and WiMAX wireless technology in the Digital Media & Communications R&D Center. He has been internationally recognized for his expertise in wireless network technology, and led end-to-end CDMA system development, WCDMA system development, Mobile WiMAX system development, DSL network development, Core network development, IMS development and application server development. He has produced 72 US patents covering IS-54 wireless technology, IS-95 technology, EV-DO, IEEE 802.16, WCDMA, network and applications.

He has led developing and commercializing the world's first CDMA, CDMA2000-1X, CDMA2000 1xEV-DO, and Mobile WiMAX network in 1996, 2000, 2002, and 2006 respectively. He is known as one of the founders of Mobile WiMAX technology and business. As general manager of WiBro/Mobile WiMAX division, he successfully led Mobile WiMAX standardization, the world first KT WiBro commercialization, and Sprint-Nextel's decision on Mobile WiMAX network deployment.

Roberto Saracco - Director, Telecom Italia

Roberto Saracco is the Director of the Future Centre in Venice and responsible for long-term research and scientific communications reporting directly to the Chief Technology Officer of Telecom Italia. In 2001, he became director of the Future Centre, a research centre focusing on the economic impact of innovations in the telecommunications area.

During 1999 and 2000, Roberto proposed and delivered a World Bank project in the InfoDev framework to speed entrepreneurship in Latin American countries, and prior, 1999 and 2000, he proposed and carried out a World Bank project in the InfoDev framework to foster entrepreneurship in Latin America countries.

Manish Vyas - VP and Principal Account Executive, Tech Mahindra

Manish is a senior executive with Tech Mahindra, a Solutions Provider dedicated to the Communications ecosystem globally. He has led various strategic initiatives in North America, Asia Pacific and India. Currently servicing the firm as a VP and Geo-Head, Manish heads Client Strategy and Relationships for Tech Mahindra, North America. Over the years Manish has helped various marquee partners of Tech Mahindra to not only implement transformational and optimization programs but also in setting up operations to meet the dynamic and fast paced needs of telecom customers globally.

Thursday, 3 December 2009 • 7:45 – 9:45 • Location: Tapa Ballroom 2 & 3
Chair: Mahmoud Daneshmand, DMTS, AT&T Labs Research

In their "How Much Information? 2003" studies, UC Berkeley Team (Lyman, Varian, et al) estimate that "Information flows through electronic channels -- telephone, radio, TV, and the Internet -- contained almost 18 Exabytes (133,200 times of the size of the US library of congress) of new information in 2002." Ninety eight percent of this total is the information sent and received in telephone calls - including both voice and data on both fixed lines and wireless estimate.

Global Connectivity is witnessing "information explosion" or IT Tsunami. A major challenge is the information and software systems to design, operate, manage and support the network infrastructure; protect it from fraud and intrusion; and increasingly generate revenue to justify enormous investment in information systems for smooth flow of mountains of information generated every second.

Some of the issues are:
- The information software and systems research and applications necessary for global connectivity;
- The compression and storage technologies enabling large-scale information management of streaming and temporal as well as structured information; and
- Challenges of the real time large-scale information mining, knowledge extraction that leads to intelligent business and operation support systems.

Speakers:

Major General George J. Allen - Director, C4 / Deputy DON Chief Information Officer (DDCIO) of the Marine Corps

Major General Allen is the Director for Command, Control, Communications, and Computers (C4), and the Deputy DON Chief Information Officer (DDCIO) for the United States Marine Corps. Prior to this assignment, General Allen was the Commanding Officer, Marine Corps Tactical Systems Support Activity, Camp Pendleton, California.

General Allen's previous command positions include Commanding Officer, 8th Communication Battalion, MarForLant; Detachment Bravo Company Commander, Marine Wing Communications Squadron-38, 3rd Marine Aircraft Wing; Communications Platoon Commander, 31st Marine Amphibious Unit, III MEF; Multichannel Platoon Commander, Communication Company, Headquarters Battalion, 3d Marine Division, FMFPac; Radio Platoon Commander, 8th Communication Battalion, FMFLant; Wire Platoon Commander, 8th Communication Battalion, FMFLant.

David G. Belanger - Chief Scientist & VP, AT&T Labs

David Belanger is currently the AT&T Labs Chief Scientist, and the Vice President of Information & Software Systems Research at AT&T Labs in Florham Park, NJ. As Chief Scientist, he is responsible to the AT&T Labs President for: identifying pre-product technology important to the future of AT&T, evaluating technology, building alignment within AT&T on technology directions, and serving as AT&T liaison to external technical communities, specifically universities, government agencies and industrial laboratories. The Information & Software Systems Research Lab conducts research in: large scale and real time information mining related to operations of a (communications) service business; interactive, information visualization; scaleable, dependable software systems; and new, information based, communications services. It is also responsible for delivery and operations of very large scale (e.g. >400TB) near real time service management capabilities to AT&T and its customers, as well as a wide variety of analytic and information mining services.

Joe Burton - VP & CTO, Unified Communications, Cisco

Joe Burton is Vice President and Chief Technology Officer in Cisco's Voice Technology Group. His team is responsible for vision, technical strategy and advanced research for Unified Communications at Cisco. Unified Communications is suite of Internet Protocol (IP) voice, data and video products and applications designed to help organizations of all sizes streamline business processes and work more efficiently. Joe is a highly regarded visionary in our industry and an evangelist for Cisco. He has a passion for technology and innovation, as well as a demonstrated business savvy that has been instrumental in several of our acquisitions including Latitude, WebEx, and Securent.

Fredrick L. Kitson - CVP, Motorola

Fred Kitson leads the Motorola Research Center, a global team of researchers working to uncover the next big things in media mobility. Under his leadership, the Center identifies, researches and develops disruptive breakthroughs and technology foundations that spawn new businesses for Motorola and innovative approaches to solving customer and market problems. The Center leverages Motorola's technical expertise in broadband communications to deliver multimedia without limits.

Kitson joined Motorola in 2005 as head of the Applications Research Center of Excellence, an international team of researchers focused on personal content handling and entertainment platforms. The Applications Research vision and architecture led by Kitson had a major impact on the corporate agenda, messaging and technological roadmaps of Motorola. Some of the most significant contributions include the development of a highly resilient MPEG-4 encoder/decoder that delivers high-quality video on mobile phones, liquid media concept and demonstrators to facilitate "seamless media" for different devices and applications, and home media servers to enable enhanced communications with ease of use.

David Lassner - VP, IT & CIO, University of Hawaii

David Lassner serves as the first Vice President and Chief Information Officer for the University of Hawaii, Hawaii's statewide system of public higher education comprised of 10 campuses and 7 education centers serving over 50,000 students on 6 islands.

David has played an active leadership role in a variety of additional local, national and international ICT organizations. He chairs the Hawaii Broadband Task Force and is the immediate past Chair of the Board of the Pacific Telecommunications Council. He has served on the Board and in leadership roles for Hawaii's High Technology Development Corporation, Internet2, the Internet Society and was recently elected to the Board of FirstMile.US.

ACCESS '09 BUSINESS FORUM
Wednesday, 2 December 2009

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Tapa Ballroom 1

Session 102: Intelligent Optical Transport Network Development and Deployment: Current Status and Future Outlook
Chair: Kohei Shiomoto, NTT

Intelligent optical transport networks are expected to generate new revenue generating services such as bandwidth-on-demand, and to provide brand-new control mechanisms such as sophisticated protection and restoration schemes. Control planes such as GMPLS are a key technology for intelligent optical transport networks. Standardization of control planes has made remarkable progress recently in the area of TDM and WSON. As a result, product development, such as on network elements and network management systems, has steadily progressed. And at last commercial products have been deployed to build real intelligent optical transport networks.

This session will explore the current status and the future outlook of the intelligent optical transport network. First, we will review the current status of the following areas: (1) standardization development, (2) network deployment in carrier and academic networks, and (3) product development such as network equipment and network management systems. Then, we will discuss what we have learned from the past experience and the future outlook for these areas.

Invited Speakers:
Young Lee, Huawei
Shinya Nakamura, NEC America
Weiqiang Sun, Shanghai Jiao Tong University
David Hausheer, University of Zurich
Lyndon Ong, Optical Internetworking Forum (OIF)

Wednesday, 2 December 2009 • 14:00 – 16:00 & 16:30 – 18:30
Location: Tapa Ballroom 3

Session 103: Advanced Wireless Networks and Systems
Chair: Dilip Krishnaswamy, Qualcomm

This session covers recent advancements in wireless networking, including emerging 4G protocols such as LTE and LTE-Advanced and WiMAX, co-operative, cognitive, and adhoc wireless communications, unlicensed and whitespace communications, emerging wireless network architectures, EHF/VHF and alternative wireless communications such as free space optics and radio over fiber, heterogeneous wireless communications technologies and architectures, enterprise wireless network architectures, and business and economic considerations related to wireless communication technologies, architectures, and services.

Invited Speakers:
14:00 – 16:00 Session
Heinz Willebrand, LightPointe
Rob Roy, SAI Technology
Dilip Krishnaswamy, Qualcomm

16:30 – 18:30 Session
Amitava Ghosh, Motorola
Kai Miao, Intel

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Tapa Ballroom 1

Session 104: Advanced Fiber Access Systems
Chair: Frank Effenberger, Huawei Technologies

Now that fiber-based systems have become commonplace features of the access network landscape, research has turned towards exploring how these systems could evolve and change the overall architecture of the network and services. The salient topics in this regard include:

• The evolution of the current G-PON and EPON systems toward the 10 Gb/s next generation;
• The concept of central office consolidation, where the inherent reach capabilities of fiber enable the access network to be lengthened into areas normally considered metro; and
• The possibility of peer-to-peer service enablement, where the large and symmetrical bandwidth capabilities of fiber allow the classic client-server traffic patterns to be replaced by more efficient ones.

This session will include invited talks on these and other related topics.

Invited Speakers:
Frank Effenberger, Huawei Technologies
Matthias Fricke, Deutsche Telekom
Koji Sakuda, NTT
Kenneth Kerpez, Telcordia Technologies
Bill Huang, China Mobile Research Institute

ACCESS '09 BUSINESS FORUM

Thursday, 3 December 2009

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Tapa Ballroom 3

Session 201: Knowledge Management, Social Networks, and Global Communities

Chair: Joe Betser, The Aerospace Corp.

Knowledge management and social networking are building communities of collaborators on a global scale. This emerging trend is building new communities and growing novel activities as well as introducing virtual collaboration tools. This trend is re-architecting the way by which communities interact and collaborate. New tools such as Wikis, social network tools, and tools offering improved access to knowledge and enhanced search capability, are introducing new and rich ways by which to interact and conduct business.

This panel will address this emerging change, and review these trend-setting activities from a number of perspectives.

Invited Speakers:
Mark Chun, Pepperdine University
Gabriel Jakobson, Altusys Corp.
Vijay Koduri, Google
Joe Betser, The Aerospace Corp.

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Tapa Ballroom 1

Session 202: Advancing Broadband, Communities and Society: Getting from Here to There

Chair: David Lassner, University of Hawaii & Hawaii Broadband Task Force Chair

Broadband is increasingly recognized as critical infrastructure for the 21st century. Yet we still face many challenges in making broadband universally available and in the adoption of the transformative applications already available that can improve quality of life and economic development. And even more advanced applications are becoming available that require even more bandwidth. Some nations and communities have taken bold approaches to viewing broadband facilities as public infrastructure, while others believe in competitive infrastructure and an unfettered marketplace. Everyone is concerned about how to stimulate demand while also ensuring that we reach the traditionally underserved, who have so often been left behind by geographic or demographic barriers. This session will explore the applications that will improve our quality of life, the challenges of universally embraced advanced broadband, and how communities and nations are developing 21st century infrastructure and services.

Invited Speakers:
Mark Hukill, Pacific Telecommunications Council
Rich Greenfield, University of Alaska
Senator David Ige, Hawaii State Senate
Stefan Karapetkov, Polycom
DooWhan Choi, Korea Telecom

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Tapa Ballroom 3

Session 203: The Path to 100 Mbps DSL Services

Chairs: John Cioffi, Stanford University; ASSIA Inc.
George Ginis, ASSIA Inc.

Realization of 100 Mbps DSL services in the range of 500m to 1km on twisted pair is the goal of various advanced strategies in DSL transmission and imminently issuing standards, largely because 100 Mbps is viewed as the maximum speed DSL customers might use in the next decade. This panel session reviews the status of 100 Mbps DSL realization and projects the realizable steps to ubiquitous high-speed DSLs, using vectoring and other methods that are part of the area known as Dynamic Spectrum Management (DSM).

Invited speakers:
Kevin Fisher, Ikanos Communications, Inc.
Axel Clausen, Infineon Technologies AG,
Miguel Peeters, Broadcom
Per-Erik Eriksson, Ericsson Research
George Ginis, ASSIA Inc.

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Tapa Ballroom 1

Session 204: Smart Grid and Home Networks

Chair: Stefano Galli, Panasonic Corporation

Several wireless and wired broadband home networking technologies are currently available to consumers. Furthermore, recent standardization activities in IEEE P1901 and ITU-T G.hn may finally lead to the unification of the fragmented wired market. At the same time, the impetus of the US current administration in facilitating the deployment of smart grid and energy efficiency technologies, as well as the recent IEEE P2030 smart grid standard effort, will create the necessity of harmonizing in-home networks with those smart grid and energy efficiency technologies that will inevitably enter the home.

The panelists will discuss the current status and future trends of home networking and smart grid technologies, and will comment on the important issue of the architectural requirements that need to be established to make sure that these two very different applications can interoperate or at least co-exist with each other.

Invited Speakers:
Bob Heile, ZigBee Alliance
Steve Leanheart, Telcordia Technologies
Vamsi Paruchuri, University of Central Arkansas
Rob Ranck, HomePlug Powerline Alliance
Todd Rytting, Panasonic Electric Works of America
Don Shaver, Texas Instruments
Matt Theall, HomeGrid Forum

DESIGN & DEVELOPMENT FORUM

Tuesday, 1 December 2009 – Thursday, 3 December 2009

Tuesday, 1 December 2009 • 10:15 – 12:15 & 14:00 – 16:00
Location: Tapa Ballroom 2

Sessions 101 & 102: Modeling and Simulation of Wireless Networks

Chairs: Jack L. Burbank, **Jon R. Ward**, **William T. Kasch**
Johns Hopkins University Applied Physics Laboratory (JHU/APL)

Modeling and Simulation (M&S) is a critical element in the design, development, and test and evaluation (T&E) of any network product or solution. In many cases, M&S provides the only method to gain insight into the performance of the eventual product or solution in a large-scale environment, and allows for more informed design trade studies. The goal of this technical session is to provide attendees an overview of many of the M&S tools and techniques that are available to assist them in their wireless projects. The proposed full-day technical session aims to provide an overview of modeling and simulation (M&S) tools and techniques available to assist wireless network designers and developers. The proposed session is an enhanced version of previous sessions on similar M&S topics in the 2005, 2006, 2007, and 2008 Designers and Developers (D&D) Forum by the authors. Previous D&D sessions focused on presentations that explained wireless networking protocols and demonstrated the advantages of disadvantages of M&S. The proposed session offers an updated overview of wireless network technologies and M&S tools, and specific M&S examples that utilize these tools.

1) Title: Introduction to M&S
Presenter: **Jack Burbank**, JHU/APL

2) Title: Wireless MAC and PHY Modeling and Simulation
Presenter: **Jon Ward**, JHU/APL

3) Title: RF Propagation M&S
Presenter: **Jon Ward**, JHU/APL

4) Title: Wireless Network M&S Tools
Presenter: **Jack Burbank**, JHU/APL

5) Title: Scalable Network Technologies
Presenter: invited presentation (QualNET)

6) Title: Wireless Networking Tutorial
Presenter: **Jack Burbank/Jon Ward**, JHU/APL

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Tapa Ballroom 2

Session 103: The Internet Resource Public Key Infrastructure (RPKI)

Chair: Stephen Kent, BBN Technologies

Routing of traffic between network service providers in the public Internet is notoriously insecure, as illustrated by Pakistan Telecom's "hijacking" of YouTube address space in 2008. In 2006, the organizations that manage the allocation of all Internet address space agreed to initiate an effort to create a public key infrastructure that attests to the allocation of these resources. This PKI is a first step in improving routing security for the public Internet. This session beings together individuals who are leading this effort, and the development of corresponding Internet standards. The speakers will describe the RPKI project and associated Internet standards, provide a status update, and discuss plans for further improvements to routing security in the public Internet.

1) Title: Resource Certification: A Public Key Infrastructure for IP Addresses and Autonomous Systems
Presenter: **Stephen Kent**, BBN Technologies

2) Title: Route Origination Authorizations: The Use of Digitally Signed Objects to Support Improved Routing Security
Presenter: **Matthew Lepinski**, BBN Technologies

Wednesday, 2 December 2009 • 10:15 – 12:15 & 14:00 – 16:00
Location: Tapa Ballroom 2

Sessions 201 & 202: Evolution to 4G Wireless: The Role of E-UTRAN and EPC

Chairs: Vijay K. Varma & **Gregory P. Pollini**, Telcordia Technologies

The trend towards All-IP networks and increased demand for data services prompted the 3GPP to assess the implications for UMTS and High Speed Packet Access (HSPA) technologies. Even though these technologies will be highly competitive in the near term, to ensure competitiveness over a longer time frame, the 3GPP realized the need for a long-term evolution of the radio-access technology and an optimization of the packet core network. Research, development and standardization in these areas have led to the definition of Evolved UTRAN (E-UTRAN) and Evolved Packet Core (EPC) specifications. The E-UTRAN architecture is designed to meet the demands of low latency, high speed connections, and high spectral efficiency required of 4G wireless access, while the EPC architecture offers an optimized packet core capable of supporting not only E-UTRAN and legacy 3GPP radio access networks, but also other radio access technologies such as eHRPD (EvDO), WLAN, and WiMAX. In addition, the basic design philosophy of EPC includes QoS support for real-time services and seamless mobility within and across multiple radio access networks. While Verizon has already announced their intention to be the first one to deploy the E-UTRAN and EPC technologies, other service providers are gearing up for massive deployments to follow. This session will provide a forum to present and debate the latest technical developments and business/market potential for what promises to be the most prominent wireless technology ever to be deployed.

1) Title: Trends and Drivers for 4G
Presenter: **Rebecca Watson**, Stratecast (a Division of Frost & Sullivan)

2) Title: Mobile Broadband - The Evolution to LTE and Beyond
Presenter: **Asok Chatterjee**, Ericsson

3) Title: The Network of the Future
Presenter: **Parviz Yegani**, Juniper Networks

4) Title: eHRPD - Use of a Common Core and a Stepping Stone to LTE
Presenter: **Mike Dolan**, Alcatel-Lucent

5) Title: Accelerating the NGMN Ecosystem by a Reference Platform for Prototyping: The FOKUS OpenEPC
Presenter: **Thomas Magedanz**, Technical University of Berlin

6) Title: Advanced RAN Techniques for Improved Spectral Efficiency in LTE and LTE-Advanced
Presenter: **Sampath Rangarajan**, NEC Labs America

7) Title: Panel
Chair: **Thomas Magedanz**, Technical University of Berlin

DESIGN & DEVELOPMENT FORUM

Tuesday, 1 December 2009 – Thursday, 3 December 2009

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Tapa Ballroom 2

Session 203: Location-based Services and Localization in Wireless Networks, Part I

Chair: Mussa Bshara, Vrije Universiteit Brussels

Wireless communication operators have realized the value and potential to make information services highly personalized. One of the best ways to personalize information services is to enable them to be location based. There are many wireless technologies (GSM, WiFI, WiMax, LTE etc) competing in the commercial space, numerous methods of determining location (GPS, A-GPS, TDOA, AOA, etc) and various architectures for providing location information to clients and location applications.

1) Title: Localization in WiMAX Networks Depending on Map-Supported Path Loss Model
Presenter: **Mussa Bshara**, Vrije Universiteit Brussels

2) Title: Three Dimensional Localization in Wireless Sensor Networks using the Adapted Multi Lateration Technique Considering Range Measurement Errors
Presenter: **Sema Oktug**

3) Title: Geolocation Awareness in the Internet
Presenter: **Richard Barnes**, BBN Technologies

4) Title: Location Conveyance with IMS: the OMA LOCSIP Service Enabler
Presenters: **Mike Loushine** & **Don Lukacs**, Telcordia Applied Research

Thursday, 3 December 2009 • 10:15 – 12:15 & 14:00 – 16:00
Location: Tapa Ballroom 2

Sessions 302 & 303: Wireless Access for Vehicular Environments (WAVE) Technology

Chair: Weidong Xiang, University of Michigan-Dearborn

Vehicles have been operating on roadways on this planet for more than a century in an isolated way. We are at the right time to connect these vehicles and bring our society into a new age. Similar to the evolution of computer networks, when millions of computers were connected to share resources and information, the Internet emerged and some profound positive changes were made to our way of our life and work.

Wireless access for vehicular environments (WAVE) technology are expected to be widely employed in the future nationwide to radically improve the road transportation environment in terms of safety, efficiency and information access. Some example applications of WAVE systems are lane change, collision avoidance, and intelligent traffic light control. Deployment of WAVE systems will fundamentally smooth the progress of ITS by providing roadways with high performance physical platforms for gathering operational data. This deployment will also turn driving and riding into a completely new experience, safer and more pleasant than ever before.

The realization of WAVE systems requires intensive research, development and manufacturing activities. This includes algorithm development for many layers of the communication protocol stack, functional definition of various parts of the infrastructure, subsequent system design, prototype assessment and massive production. WAVE has the potential to generate a fresh information technology industry based upon roadway vehicles, and this will bring the US an opportunity to grow the high-tech sector of its economy and enhance its international economic competitiveness. The magnitude and breadth of the road information infrastruc¬ture impacts on the economy of the US are substantial, multi-layered and profound.

1) Title: The IEEE P1609 Standard Activities
Presenters: **Tom Kurihara**, IEEE P1609 Workgroup
Justin McNew, Kapsch
Tim McGuckin, OminAir

2) Title: Service Management for ITS using WAVE (1609.3) Networking
Presenter: **Tim Weil**, JD Biggs and Associates

3) Title: Vehicle-to-Vehicle Communications Security
Presenter: **Tao Zhang**, Telcordia Technologies

4) Title: Vehicle-to-Vehicle Communications Security
Presenter: **Tao Zhang**, Telcordia Technologies

5) Title: Introduction of a Vehicular Networks Simulator (VSN) for Research, Design and Development of WAVE Systems
Presenter: **Weidong Xiang**, University of Michigan, Dearborn

IEEE ENTERPRISE NETWORKING CONFERENCE (EntNet) 2009

Tuesday, 1 December 2009 • 10:15 – 18:30 • Location: Tapa Ballroom 3

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.

EntNet 2009: Advances in Enterprise Networking Solutions: LAN/WAN, Wireless, Security, and Network Management

10:15 – 10:45

EntNet Opening: Daniel Minoli, EntNet TPC &
Latif Ladid, EntNet Keynotes Chair

Keynote Presentation:
Asia-Pacific Communication Perspectives
Kazuhiro Gomi, COO, NTT America

11:00 – 12:15

Panel 1: Advances in Enterprise Networking, from Cloud Computing to Green Networks
Daniel Minoli, ENTNET, TPC

The Greening of IT– An Overview
Daniel Minoli, ENTNET, TPC

Is there Such a Thing as a Green Network
David Yates, Bentley University

Infrastructures for Mobile Cloud Computing and Business/Enterprise Applications
Thomas Michael Bohnert, SAP

14:00 – 16:00

Roundtable: IPv6 Advances in the Pacific Rim
Latif Ladid, President and Founder, IPv6 Forum

Japan: Hiroshi Miyata, IPv6 Ready Logo Executive, Manager TAHI project; IPv6 Promotion Council Japan

Australia: Tony Hill, President Internet Society Australia; IPv6 Summit Chair

16:30 – 18:15

Panel 2: Wireless and Mobility Solutions
David Yates, Bentley University

The Future of Wireless
Klaus-Dieter Kohrt, Former Vice Chairman, UMTS Forum

Asok Chatterjee, 3GPP PCG Chair; Ericsson; NTIA Member

18:15 – 18:30

EntNet Closing, Daniel Minoli, EntNet TPC &
Latif Ladid, EntNet Keynotes Chair

IPv6 FORUM

Monday, 30 November 2009 • 9:00 – 18:00 • Location: Tapa Ballroom 2

The NEXT BIG BAIL-OUT: Will IPv6 Save the Internet?

The IPv6 Forum is a world-wide consortium of Leading Internet vendors, service providers and National Research & Education Networks (NRENs), with a mission to promote IPv6 by improving market and user awareness, creating a quality and secure New Generation Internet and allowing world-wide equitable access to knowledge and technology. The key focus of the IPv6 Forum today is to provide technical guidance for the deployment of IPv6. IPv6 Summits are organized by the IPv6 Forum and staged in various locations around the world to provide industry and market with the best available information on this rapidly advancing technology.

Ladid | Tseronis | Wettling | Christman | Zelingher | Hain | Esaki | Islam | Dong | Ramadass | Yeh | Hill | Chatterjee | Whinery

IPv6: The NEXT BIG BAIL-OUT: Will IPv6 Save the Internet?
Latif Ladid, President IPv6 Forum

USG IPv6 Task Force Roadmap
Peter Tseronis, Chair, USG IPv6 Task Force

Deployment of IPv6 at BECHTEL
Fred Wettling, Manager, Architecture and Strategic Planning, Bechtel Corporation

Deployment of IPv6 at NTT America
Cody Christman, Director, Product Engineering, NTT America

Deploying IPv6 @ AT&T
Simon Zelingher, VP, Global Optical, IP & Data Development, AT&T Labs

Business Case & IPv6 Security
Tony Hain, Cisco; IPv6 Forum Fellow

The New World of IPv6 Applications
Hiroshi Esaki, Vice Director, Japanese v6 Council

IPv6 Viral End 2 End Application
Junaid Islam, President & CTO, Vidder

China Next Generation Networks
Liu Dong, Chair, IPv6 China Council

Malaysia IPv6 Success Story
Sureswaran Ramadass, Chair, Asia Pacific IPv6 Task Force

Taiwan IPv6 Success Story
Yaoming Yeh, Professor, National Taiwan Normal University

Australian IPv6 Success Story
Tony Hill, President Internet Society of Australia (ISOC-AU); IPv6 Forum Australia

ATIS and its IPv6 Preparedness
Asok Chatterjee, Member of the Executive Committee, ATIS Board of Directors; Vice President, Ericsson Inc.

Deploying IPv6
Alan Whinery, Chief Internet Engineer, University of Hawaii

Panel Discussion – The Way Forward
Designing the Collaborative IPv6 Roadmap between the US and Asia

Conclusion and Closing Remarks

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Honolulu Suite 1

AHSN-01: Routing Protocols in WSNs

Chair: Satyajayant Misra (New Mexico State University, USA)

Joint Base Station Placement and Fault-Tolerant Routing in Wireless Sensor Networks
Dejun Yang (Arizona State University, USA)
Satyajayant Misra (New Mexico State University, USA)
Guoliang Xue (Arizona State University, USA)

Realization of Greedy Anti-Void Routing Protocol for Wireless Sensor Networks
Wen-Jiunn Liu, Kai-Ten Feng (National Chiao Tung University, Taiwan)

Dynamic Election-Based Sensing and Routing in Wireless Sensor Networks
Sharief Oteafy (Queen's University, Canada)
Hosam Aboelfotoh (Kuwait University, Kuwait)
Hossam Hassanein (Queen's University, Canada)

REER: Robust and Energy Efficient Multipath Routing Protocol for Wireless Sensor Networks
Bashir Yahya, Jalel Ben-Othman (University of Versailles, France)

ROME: Routing Over Mobile Elements in WSNs
Stefano Basagni (Northeastern University, USA)
Michele Nati, Chiara Petrioli, Roberto Petroccia
(University of Rome "La Sapienza", Italy)

Implementation of Gradient Routing in Wireless Sensor Networks
Thomas Watteyne, Kristofer Pister (University of California, Berkeley, USA)
Dominique Barthel (Orange Labs, France)
Mischa Dohler (Centro Tecnológico Telecomunicaciones Cataluña, Spain)
Isabelle Augé-Blum (INRIA, France)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Honolulu Suite 2

AHSN-02: Mobility in Sensor Networks

Chair: Boleslaw Szymanski (Rensselaer Polytechnic Institute, USA)

Multiple-Symbol Differential Decision Fusion for Mobile Wireless Sensor Networks
Andre Lei, Robert Schober (University of British Columbia, Canada)

Networked Ultrasonic Sensors for Target Tracking: An Experimental Study
Hongbin Li, Di Miao, Jiming Chen, Youxian Sun (Zhejiang University, China)
Xuemin (Sherman) Shen (University of Waterloo, Canada)

Packet Transmission Scheduling Algorithm for Dense Wireless Sensor Networks with Mobile Sink
Ali Sharifkhani, Norman Beaulieu (University of Alberta, Canada)

Spatial Correlation and Mobility Aware Traffic Modeling for Wireless Sensor Networks
Pu Wang, Ian Akyildiz (Georgia Institute of Technology, USA)

A Motion Tendency-based Adaptive Data Delivery Scheme for Delay Tolerant Mobile Sensor Networks
Fulong Xu, Ming Liu
(University of Electronic Science and Technology of China, China)
Jiannong Cao (Hong Kong Polytechnic University, Hong Kong)
Guihai Chen (Nanjing University, China)
Haigang Gong, Jinqi Zhu
(University of Electronic Science and Technology of China, China)

Distributed Target Tracking with Directional Binary Sensor Networks
Zijian Wang, Eyuphan Bulut, Boleslaw K. Szymanski
(Rensselaer Polytechnic Institute, USA)

Tuesday, 1 December 2009
10:15 – 12:15 • Location: Honolulu Suite 3

AHSN-03: Cross-Layer Protocols in WSNs

Chair: Mohamed Ibnkahla (Queen's University, Canada)

A Cross-Layer Mechanism for Solving Hidden Device Problem in IEEE 802.15.4 Wireless Sensor Networks
Hsueh-Wen Tseng, Shan-Chi Yang, Ping-Cheng Yeh, Ai-Chun Pang
(National Taiwan University, Taiwan)

Joint Rate Control and Routing for Energy-constrained Wireless Sensor Networks with Real-time Requirement
Meng Zheng, Wei Liang, Xiaoling Zhang, Hai-bin Yu, Peng Zeng
(Chinese Academy of Sciences, China)

A Joint Design of Opportunistic Forwarding and Energy-Efficient MAC Protocol in Wireless Sensor Networks
Haiming Chen (Chinese Academy of Sciences, China)
Li Cui (Institute of Computing Technology, China)
Victor O. K. Li (University of Hong Kong, China)

Joint Coding/Routing Optimization for Correlated Sources in Wireless Visual Sensor Networks
Chenglin Li, Junni Zou, Hongkai Xiong, Yongsheng Zhang
(Shanghai Jiao Tong University, China)

Performance Modeling of Cognitive Wireless Sensor Networks Applied to Environmental Protection
Elyes Bdira, Mohamed Ibnkahla (Queen's University, Canada)

QUATTRO: QoS-Capable Cross-layer MAC Protocol for Wireless Sensor Networks
Joel Ruiz, Jose Gallardo (CICESE University of Ottawa, Mexico)
Luis Villasenor (CICESE, Mexico)
Dimitrios Makrakis, Hussein Mouftah (University of Ottawa, Canada)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Coral Ballroom Lounge

AHSN-24: Topics in Ad Hoc Sensor and Mesh Networking I (Poster)

Chair: Hossam S. Hassanein (Queen's University, Canada)

Parallel Singulation in RFID Systems
Kashif Ali, Hossam Hassanein (Queen's University, Canada)

Spatial Inference Using Networks of RFID receivers: a Bayesian approach
Ying Zhu, William Howard, Ken Pu (University of Ontario, Canada)

When Do Non-Regenerative Two-Hop Relaying Networks Require a Global Phase Reference?
Stefan Berger, Armin Wittneben
(Swiss Federal Institute of Technology, Switzerland)

Three-Dimensional Markov Chain Model for Performance Analysis of the IEEE 802.11 Distributed Coordination Function
Ahed Alshanyour, Anjali Agarwal (Concordia University, Canada)

Anonymous Cardinality Estimation in RFID Systems with Multiple Readers
Vahid Shah-Mansouri, Vincent W. S. Wong
(University of British Columbia, Canada)

Fast and Reliable Tag Estimation in RFID Systems with Collision-Oblivious Reader
Han-You Jeong, Won-Ju Yoon, Sang-Hwa Chung
(Pusan National University, Korea)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Sea Pearl Suite 3 – 4

CTS-01: Multiple Access and Broadcast Channels

Chair: David Gesbert (Eurecom, France)

Block Diagonalization in the MIMO Broadcast Channel with Delayed CSIT
Jun Zhang, Jeffrey Andrews, Robert W. Heath, Jr.
(University of Texas, Austin, USA)

Capacity Region of Reversely Degraded Gaussian MIMO Broadcast Channel
Jun Chen (McMaster University, Canada)
Chao Tian (AT&T Labs - Research, USA)

De-hyping Transmit Diversity in Modern MIMO Cellular Systems
Nihar Jindal (University of Minnesota, USA)
Angel Lozano (Universitat Pompeu Fabra, Spain)

Stochastic Resource Allocation over Fading Multiple Access and Broadcast Channels
Na Gao, Xin Wang (Florida Atlantic University, USA)

Constellation Constrained Capacity of Two-user Broadcast Channels
Naveen Deshpande, B. Sundar Rajan (Indian Institute of Science, India)

The Gap Approximation for Gaussian Multiple Access Channels
Dimitris Toumpakaris (University of Patras, Greece)
Jungwon Lee (Marvell Semiconductor, USA)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Iolani Suite 5 – 6

CISS-01: Physical Layer Security

Chair: Stamatios Kartalopoulos (University of Oklahoma, USA)

Secrecy Extraction from Increased Randomness in a Time-Variant MIMO Channel
Chan Chen, Michael Jensen (Brigham Young University, USA)

CatchIt: Detect Malicious Nodes in Collaborative Spectrum Sensing
Wenkai Wang (University of Rhode Island, USA)
Husheng Li (University of Tennessee, USA)
Yan Sun (University of Rhode Island, USA)
Zhu Han (University of Houston, USA)

Dogfight in Spectrum: Jamming and Anti-Jamming in Multichannel Cognitive Radio Systems
Husheng Li (University of Tennessee, USA)
Zhu Han (University of Houston, USA)

LDPC Codes for Physical Layer Security
Demijan Klinc (Georgia Institute of Technology, USA)
Jeongseok Ha (KAIST, Korea)
Steven W. McLaughlin (Georgia Institute of Technology, USA)
João Barros (University of Porto, Portugal)
Byung-Jae Kwak (Electronics and Telecommunications Research Institute, Korea)

Network Security: Synchronization in Chaotic Communication Systems
Stamatios K. Kartalopoulos (University of Oklahoma, USA)

A Framework of Multiplicative Spread Spectrum Embedding for Data Hiding: Performance, Decoder and Signature Design
Amir Valizadeh, Z. Jane Wang (University of British Columbia, Canada)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Kahili Suite 1

CQPRM-01: Design of Networks and Services

Chair: Toshinori Tsuboi (Tokyo University of Technology, Japan)

Design Method of Robust Networks against Performance Deterioration during Failures
Nozomu Katayama, Takeshi Fujimura, Hiroyoshi Miwa
(Kwansei Gakuin University, Japan)
Noriaki Kamiyama, Haruhisa Hasegawa, Hideaki Yoshino (NTT, Japan)

Construction of Candidate Topologies for Large-Scale Networks
Noriaki Kamiyama (NTT, Japan)

Network Administration using Web Services
Paolo Anedda, Luigi Atzori (University of Cagliari, Italy)

End–to–End Inference of Link Level Queueing Delay Statistics
Gianni Antichi, Andrea Di Pietro, Domenico Ficara, Stefano Giordano, Gregorio Procissi, Fabio Vitucci (University of Pisa, Italy)

Information-Guided Relay Selection for High Throughput in Half-Duplex Relay Channels
Yuli Yang (Alcatel-Lucent, China)

LTE Access Network Planning and Optimization: A Service-Oriented and Technology-Specific Perspective
Fernando Gordejuela-Sanchez, Jie Zhang (University of Bedfordshire, UK)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Sea Pearl Suite 5 – 6

CSS-01: Peer-to-Peer Services

Chair: Abdelhamid Mellouk (University Paris XII, France)

Analyzing the Aggregate Download Bandwidths in Peer-to-peer Live Streaming Systems
Yusuo Hu, Jiang Li (Microsoft Research Asia, China)

Superchunk based Fast Search in P2P-VoD System
Danqi Wang, Chai Kiat Yeo (Nanyang Technological University, Singapore)

FairE9: Fair File Distribution over Mesh-Only Peer-to-Peer
Eyal Zohar, Anat Lerner (The Open University of Israel, Israel)

SpamResist: Making Peer-to-Peer Tagging Systems Robust to Spam
Ennan Zhai, Ruichuan Chen (Peking University, China)
Eng Keong Lua (Carnegie Mellon University, USA)
Long Zhang, Huiping Sun, Zhuhua Cai, Sihan Qing, Zhong Chen
(Peking University, China)

Time-shifted Streaming in a Peer-to-Peer Video Multicast System
Jeonghun Noh, Aditya Mavlankar (Stanford University, USA)
Pierpaolo Baccichet (Dyyno Inc., USA)
Bernd Girod (Stanford University, USA)

A Multicast-based Bootstrap Mechanism for Self-organizing P2P Networks
Simone Cirani, Luca Veltri (University of Parma, Italy)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Lehua Suite

NGNI-01: Emerging Networking I

Chair: Vinod Mishra (Defense Information Systems Agency, USA)

MobiSN: Semantics-based Mobile Ad Hoc Social Network Framework
Juan Li, Samee Khan (North Dakota State University, USA)

ANTS - A Framework for Knowledge based NAT Traversal
Andreas Müller, Andreas Klenk, Georg Carle
(Technische Universität München, Germany)

Host Identity Protocol and Proxy Mobile IPv6: A Secure Global and Localized Mobility Management Scheme for Multihomed Mobile Nodes
Giuliana Iapichino, Christian Bonnet (EURECOM, France)

Economics of Femtocells
Nikhil Shetty (University of California, Berkeley, USA)
Shyam Parekh (Alcatel-Lucent Bell Labs, USA)
Jean Walrand (University of California, Berkeley, USA)

Energy-aware Resource Adaptation for Next-Generation Network Equipment
Raffaele Bolla, Roberto Bruschi; Franco Davoli (University of Genoa, Italy)

Towards a Declarative Framework For Managing Application and Network Adaptations
Palanivel Kodeswaran, Anupam Joshi
(University of Maryland Baltimore County, USA)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Coral Ballroom Lounge

NGNI-11: Topics in Next Generation Networking (Poster)

Chair: Luca Valcarenghi (Scuola Superiore Sant'Anna, Italy)

Revenue Management in the Presence of Self-Similar Alpha-Stable Distributions
Armin Ghayoori, Alberto Leon-Garcia (University of Toronto, Canada)

An Integrated Mobility Framework for Pervasive Communications
Raffaele Bolla, Riccardo Rapuzzi, Matteo Repetto (University of Genoa, Italy)

Second-Order Differential Encoding of Deterministic Finite Automata
Gianni Antichi, Andrea Di Pietro, Domenico Ficara, Stefano Giordano, Gregorio Procissi, Fabio Vitucci (University of Pisa, Italy)

Detecting Trustworthy Real-Time Communications using a Web-of-Trust
Jan Seedorf, Nico d'Heureuse; Saverio Niccolini (NEC Europe Ltd., Germany)
Marco Cornolti (University of Pisa, Italy)

A Novel Fingerprint Location Method Using Ray-tracing
Phillip Maher, Robert Malaney (University of New South Wales, Australia)

Caching in Content-based Publish/Subscribe Systems
Vasilis Sourlas (University of Thessaly, Greece)
Georgios S. Paschos (CERTH - ITI, Greece)
Paris Flegkas, Leandros Tassiulas (University of Thessaly, Greece)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Iolani Suite 1 – 2

ONS-01: Routing and Scheduling

Chair: Eiji Oki (University of Electro-Communications, Japan)

Optical Flow Switching with Time Deadlines for High-Performance Applications
Vincent V. S. Chan, Anurupa Ganguly, Guy Weichenberg
(Massachusetts Institute of Technology, USA)

Dynamic Routing and Scheduling for Variable Bandwidth Circuit Switching
Ankitkumar N. Patel, Jason P. Jue (University of Texas, Dallas, USA)

Multi-Parametric Online RWA based on Impairment Generating Sources
Panagiotis Kokkinos, Kostas Christodoulopoulos, Konstantinos Manousakis, Emmanouel Varvarigos (University of Patras, Greece)

Dynamic Routing of Connections with Known Duration in WDM Networks
Diego Lucerna (Politecnico di Milano, Italy)
Massimo Tornatore, Biswanath Mukherjee (University of California, Davis, USA)
Achille Pattavina (Politecnico di Milano, Italy)

A Multipath Routing Mechanism in Optical Networks with Extremely High Bandwidth Requests
Xiaomin Chen, Admela Jukan
(Technische Universität Carolo-Wilhelmina zu Braunschweig, Germany)
André Drummond, Nelson L. S. de Fonseca (State University of Campinas, Brazil)

Flexible Scheduling of Multicast Sessions with Different Granularities for Large Data Distribution over WDM Networks
Dragos Andrei, Massimo Tornatore, Charles U. Martel, Biswanath Mukherjee
(University of California, Davis, USA)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Sea Pearl Suite 1 – 2

SAC(CRN)-01: Resource Allocation in Cognitive Radio Networks

Chair: Joseph B. Evans (University of Kansas, USA)

Probability-based Resource Allocation in Cognitive Radio Networks
Xiangwei Zhou, Geoffrey Ye Li (Georgia Institute of Technology, USA)
Dongdong Li, Dandan Wang, Anthony C. K. Soong (Huawei Technologies, USA)

Optimal Power Control for Concurrent Transmissions of Location-aware Mobile Cognitive Radio Ad Hoc Networks
Yi Song, Jiang Xie (University of North Carolina, Charlotte, USA)

Power Control of Cognitive Radio System in Rayleigh Fading
Chen Sun, Yohannes D. Alemseged, Ha Nguyen Tran, Hiroshi Harada
(National Institute of Information & Communications Technology, Japan)

Fair Profit Allocation in the Spectrum Auction Using the Shapley Value
Miao Pan, Feng Chen (University of Florida, USA)
Xiaoyan Yin (Northwestern Polytechnical University, China)
Yuguang Fang (University of Florida, USA)

A Cognitive Radio Network Architecture without Control Channel
Chunsheng Xin (Norfolk State University, USA)
Xiaojun Cao (Georgia State University, USA)

Distributed Power and Admission Control for Cognitive Radios in Spectrum Underlay Networks
John Tadrous, Ahmed Sultan (Nile University, Egypt)
Mohammed Nafie (Cairo University, Egypt)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Kahili Suite 2

SAC(SSC)-01: Transmission and Coding Techniques for Satellite and Space Communications

Chair: Giovanni Corazza (University of Bologna, Italy)

Threshold Detection Analysis for OFDM Timing and Frequency Recovery
Stefano Rosati (University of Bologna, Italy)
Adegbenga Awoseyila (University of Surrey, UK)
G. Alessandro Vanelli-Coralli (University of Bologna, Italy)
Christos Kasparis (University of Surrey, UK)
Giovanni Emanuele Corazza (University of Bologna, Italy)
Barry Evans (University of Surrey, UK)

Distributed Power and Carrier Allocation in Multibeam Satellite Uplink with Individual SINR Constraints
Joan Enric Barcelo Llado, Maria-Angeles Vázquez-Castro, Lei Jiang (Universidad Autónoma de Barcelona, Spain)
Are Hjørungnes (University of Oslo, Norway)

Packet Coding Performance with Correlated Fading and Shadowing
Marco Papaleo, Rosario Firrincieli, Giovanni Corazza, Alessandro Vanelli-Coralli (University of Bologna, Italy)

Performance Analysis of SDPSK and 1-Bit Differential GMSK Modems for FFH-FDMA Satellite Communications under Jamming
Junghwan Kim, Chong Wang, Mike Orra (University of Toledo, USA)

A Study of Adaptive Equalizer for APSK in the Satellite Broadcasting System
Yoichi Suzuki, Akinori Hashimoto, Masaaki Kojima, Hisashi Sujikai, Shoji Tanaka, Takeshi Kimura, Kazuyoshi Shogen (NHK Science and Technical Research Laboratories, Japan)

Adaptive Optics based Telescope Array Receiver for Compensation of Optical Turbulence Effects in Deep Space Optical Communication Link with Mars
Ali Hashmi, Ali Eftekhar, Ali Adibi (Georgia Institute of Technology, USA)
Farid Amoozegar (California Institute of Technology, USA)

Tuesday, 1 December 2009 • 10:15 - 12:15
Location: Iolani Suite 3 – 4

SPC-01: Adaptive Antennas and Beamforming

Chairs: Shih Yu Chang (National Tsing Hua University of Taiwan)
Hung Nguyen (The Aerospace Corp., USA)

Robust Noise Filtering in Wideband Frequency-Invariant Beamforming with Uniform Circular Arrays
Camillo Gentile (National Institute of Standards and Technology, USA)

SNR Maximization and Distributed Beamforming in Multiuser Multi-relay Networks
Duy H. N. Nguyen, Ha H. Nguyen (University of Saskatchewan, Canada)

Super-Gaussian Loading for Robust Beamforming
Jing Gu, Patrick Wolfe (Harvard University, USA)

Multicell Multicast Beamforming with Delayed SNR Feedback
Markus Jordan, Xitao Gong, Gerd Ascheid (RWTH Aachen University, Germany)

A Low-Complexity Planar Antenna Array for Wireless Communication Applications: Performance Analysis and Beamforming
Moon-Sik Lee (Electronics and Telecommunications Research Institute, Korea)

Multi-Source Multi-Destination Relay Network: An Interference-Free Multi-Beamforming Protocol
Shouhong Zhu, Zhiguo Ding (Lancaster University, UK)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: South Pacific Ballroom 1

WCS-01: Cooperative Communication: Relay Selection

Chair: Andreas Molisch (University of Southern California, USA)

Relay Selection and Data Transmission Throughput Tradeoff in Cooperative Systems
Virag Shah, Neelesh Mehta (Indian Institute of Science, India)
Raymond Yim (Mitsubishi Electric Research Labs, USA)

Cooperative Selection Diversity with CSI-based Amplify-and-Forward Relaying in Nakagami-m Fading Channels
Phee Lep Yeoh (University of Sydney, Australia)
Maged Elkashlan, Iain B. Collings (CSIRO, ICT Centre, Australia)

Probabilistic Relay Selection for Fast Selection Cooperation in Half-Duplex Wireless Networks
Kuang-Hao Liu, Hsiao-Hwa Chen (National Cheng Kung University, Taiwan)

Achieving Full Diversity by Selection in Arbitrary Multi-hop Amplify-and-Forward Relay Networks
Wei Shi, Sumit Roy (University of Washington, USA)

Optimal Relay-Subset Selection and Time-Allocation in Decode-and-Forward Cooperative Networks
Elzbieta Beres, Raviraj Adve (University of Toronto, Canada)

A Novel Relay Selection Scheme with Simplified Power Allocation for Wireless Relay Networks
Hua Wu, Yafeng Wang (Beijing University of Posts and Telecommunications, China)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: South Pacific Ballroom 2

WCS-02: MIMO

Chair: Nghi Tran (McGill University, Canada)

Effective SINR Computation for Maximum Likelihood Detector in MIMO Spatial Multiplexing Systems
Tetsushi Abe, Gerhard Bauch (DoCoMo Euro-Laboratories, Germany)

Achieving Near-Optimal Detection Using Adaptive Joint Combination of MLD and MMSE-SIC over Spatially Correlated MIMO Channels
Lisheng Fan (Shantou University, China)
Yangyang Zhang (University College London, UK)
Yongquan Jiang (Shantou University, China)
Kai-Kit Wong (University College London, UK)

Eigenmode Transmission for the MIMO Broadcast Channel with Semi-Orthogonal User Selection
Liang Sun, Matthew R. McKay (Hong Kong University of Science and Technology, Hong Kong)

MIMO Beam-forming at 60 GHz: Analysis of Ergodic Capacity
Navid Lashkarian (San Jose State University, USA)
Karim Nasiri Toussi (Sibeam Inc., USA)

Feasibility Conditions for Interference Alignment
Cenk M. Yetis (Istanbul Technical University, USA)
Tiangao Gou, Syed Jafar (University of California, Irvine, USA)
Ahmet Kayran (Istanbul Technical University, Turkey)

Nonuniform Array Design for Robust Millimeter-Wave MIMO Links
Eric Torkildson, Colin Sheldon, Upamanyu Madhow, Mark Rodwell (University of California, Santa Barbara, USA)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: South Pacific Ballroom 3

WCS-03: Resource Allocation

Chair: Patrick Marsch (Technische Universität Dresden, Germany)

Subcarrier-Pair Based Resource Allocation for Cooperative AF Multi-Relay OFDM Systems
Wenbing Dang, Meixia Tao, Hua Mu (Shanghai Jiao Tong University, China)
Jianwei Huang (Chinese University of Hong Kong, Hong Kong)

Distributed Coordinated Multi-cell Transmission Based on Dual Decomposition
Antti Tolli, Harri Pennanen, Petri Komulainen (University of Oulu, Finland)

Fair Energy-Efficient Resource Allocation over Fading TDMA Channels
Xin Wang, Di Wang, Hanqi Zhuang, Salvatore D. Morgera
(Florida Atlantic University, USA)

On the Rate Duality of the MIMO Interference Channel and its Application to Sum Rate Maximization
An Liu (Peking University, China)
Youjian Liu (University of Colorado, Boulder, USA)
Haige Xiang, Wu Luo (Peking University, China)

Impact of Interference Coupling - Loss of Convexity
Holger Boche, Siddharth Naik
(Technical University of Berlin, Heinrich Hertz Institute, Germany)

On Optimization of Joint Base Station Association and Power Control via Benders' Decomposition
Jieying Chen, Liping Qian, Yingjun (Angela) Zhang
(Chinese University of Hong Kong, Hong Kong)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: South Pacific Ballroom 4

WCS-04: Multiple Access

Chair: Teng Joon Lim (University of Toronto, Canada)

Interference Cancellation Techniques for CDMA2000 1x Reverse Link
Peter Black, Yu-Cheun Jou, Rashid Attar, Jun Ma, Xin Zhang
(Qualcomm Inc., USA)

Packet Acquisition for Time-Frequency Hopped Asynchronous Random Multiple Access
Hoang Nguyen, Fred Block
(Massachusetts Institute of Technology Lincoln Lab, USA)

Multiple Access with Low-Density Signatures
Jaap van de Beek; Branislav Popovic (Huawei Technologies, Sweden)

Uplink Random Access Scheme with Prioritized Orthogonal Layers for OFDMA CSI Feedback
Megumi Kaneko, Kazunori Hayashi (Kyoto University, Japan)
Petar Popovski, Hiroyuki Yomo (Aalborg University, Denmark)
Hideaki Sakai (Kyoto University, Japan)

Design and Analysis of Framed Aloha based RFID Anti-collision Algorithms
Lei Zhu, Tak-shing Peter Yum (Chinese University of Hong Kong, Hong Kong)

Rate Optimization for IDMA Systems with Iterative
Tao Yang, Jinhong Yuan, Zhenning Shi (University of New South Wales, Australia)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Coral Ballroom Lounge

WCS-37: Topics in Wireless Communications I (Poster)

Chair: Padmini Vellore (Memorial University of Newfoundland, Canada)

Implications of Energy Profile and Storage on Energy Harvesting Sensor Link Performance
Bhargav Medepally, Neelesh Mehta, Chandra R. Murthy
(Indian Institute of Science, India)

Centralized and Distributed Optimization of Ad Hoc Cognitive Radio Network
Yao Ma (Iowa State University, USA)
Dong In Kim (Sungkyunkwan University, Korea)

Efficient Mutual Interference Minimization and Power Allocation for OFDM-based Cognitive Radio
Md. Jahidur Rahman, Xianbin Wang, Serguei L. Primak
(University of Western Ontario, Canada)

Effective Capacity Analysis of Cognitive Radio Channels for Quality of Service Provisioning
Sami Akin, Mustafa Cenk Gursoy (University of Nebraska-Lincoln, USA)

A Self-Organized Femtocell for IEEE 802.16e Sysyem
Young Jin Sang, Hae Gwang Hwang, Kwang Soon Kim
(Yonsei University, Korea)

Probability Distribution of Multi-hop Multipath Connection in a Random Network
Padmini Vellore, Paul Gillard, Ramachandran Venkatesan
(Memorial University, Canada)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Coral Ballroom 1

WNS-01: Channel Capacity

Chair: Petar Popovski (Aalborg University, Denmark)

An Analytical Expression for Service Curves of Fading Channels
Giacomo Verticale, Paolo Giacomazzi (Politecnico di Milano, Italy)

High-Order Analysis of Outage Probability in OFDMA Wireless Networks
Bo Bai, Wei Chen, Zhigang Cao (Tsinghua University, China)
Khaled B. Letaief
(Hong Kong University of Science & Technology, Hong Kong)

Optimal MIMO Antenna Geometry Analysis for Wireless Networks in Underground Tunnels
Zhi Sun, Ian F. Akyildiz (Georgia Institute of Technology, USA)

Channel Coding Design to Support Asynchronous Physical Layer Network Coding
Dong Wang (Philips Research North America, USA)
Shengli Fu (University of North Texas, USA)
Kejie Lu (University of Puerto Rico at Mayaguez, Puerto Rico)

End-to-end Delay Analysis for Reliable Communications over Lossy Channels: Integrating Network Coding and ARQ Schemes
Francesco Chiti, Romano Fantacci, Russel Allan Johnson
(University of Florence, Italy)
Vladimir Crnojevic, Dejan Vukobratovic, (University of Novi Sad, Serbia)

A Proposal of New Hybrid ARQ Scheme suitable for Multi-hop Transmissions using LDPC Codes
Takayuki Hashimoto, Tetsuya Wakiyama, Koji Ishibashi, Tadahiro Wada
(Shizuoka University, Japan)

Tuesday, 1 December 2009 • 10:15 – 12:15
Location: Coral Ballroom 2

WNS-02: TCP and Congestion Control

Chair: Toktam Mahmoodi (King's College London, UK)

Performance of Different TCP Variants in IEEE 802.11 WLAN and The TCP-WOW Algorithm
Shan Chen, Brahim Bensaou, Ka-Lok Hung
(Hong Kong University of Science and Technology, Hong Kong)

RACING: Rate Control for Enhancing Intermittent Networking Performance for Mobile Users
Haruki Izumikawa (Universität Bremen, TZI, Germany)
Dirk Kutscher (NEC Europe Ltd., Germany)
Andreas Timm-Giel, Carsten Bormann (Universität Bremen, Germany)

Combined Congestion Control and Link Selection Strategies for Delay Tolerant Interplanetary Networks
Igor Bisio, Marco Cello (University of Genoa, Italy)
Tomaso De Cola (German Aerospace Center, Germany)
Mario Marchese (University of Genoa, Italy)

Hop-by-hop Congestion Control for Wireless Mesh Networks with Multi-channel MAC
Gang Feng (University of Electronic Science and Technology of China, China)
Fei Long (Siemens, China)
Yide Zhang (University of Electronic Science and Technology of China, China)

One-Hop Call Admission Control in Heterogeneous Wireless Networks: A Queueing Analysis
Wenzhou Ouyang, Luoyi Fu, Xinbing Wang
(Shanghai Jiaotong University, China)
Ekram Hossain (University of Manitoba, Canada)

Improving TCP Performance during the Intra LTE Handover
Davide Pacifico, Matteo Pacifico, Carlo Fischione, Håkan Hjalmarsson, Karl Henrik Johansson (KTH Royal Institute of Technology, Sweden)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Honolulu Suite 1

AHSN-04: Energy Efficient Protocols for WSNs

Chairs: Song Ci (University of Nebraska-Lincoln, USA)
Sirisha Medidi (Boise State University, USA)

Lifetime Maximization via a New Cooperative MAC Protocol in Wireless Sensor Networks
Chao Zhai, Ju Liu, Lina Zheng, Hongji Xu (Shandong University, China)

Analytical Models for the Wake-up Receiver Power Budget for Wireless Sensor Networks
Maarten Lont, Dusan Milosevic
(Eindhoven University of Technology, Netherlands)
Guido Dolmans (Holst Centre, Netherlands)
Peter Baltus, Arthur van Roermund
(Eindhoven University of Technology, Netherlands)

Optimal Flow Control for Utility-Lifetime Tradeoff in Wireless Sensor Networks
Jiming Chen, Shibo He, Youxian Sun (Zhejiang University, China)
Preetha Thulasiraman, Xuemin (Sherman) Shen
(University of Waterloo, Canada)

Energy-Efficient k-Coverage for Wireless Sensor Networks with Variable Sensing Radii
Jiong Wang (Washington State University, USA)
Sirisha Medidi, Muralidhar Medidi (Boise State University, USA)

A Battery-Aware Deployment Scheme for Cooperative Wireless Sensor Networks
Jiucai Zhang, Song Ci, Hamid Sharif, Mahmoud Alahmad
(University of Nebraska-Lincoln, USA)

TBCD-TDM: Novel Ultra-Low Energy Protocol for Implantable Wireless Body Sensor Networks
Fariborz Fereydouni-Forouzandeh, Otmane Ait Mohamed
(Concordia University, Canada)
Mohamad Sawan (École Polytechnique de Montréal, Canada)
Falah Awwad (United Arab Emirates University, UAE)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Honolulu Suite 2

AHSN-05: WSNs I

Chair: Sinem Coleri Ergen (University of California, Berkeley, USA)

Analysis of IEEE 802.15.4 Sensor Networks for Event Detection
Marco Gribaudo, Daniele Manini (University of Torino, Italy)
Alessandro Nordio, Carla-Fabiana Chiasserini (Politecnico di Torino, Italy)

MAC Protocol Engine for Sensor Networks
Sinem Coleri Ergen (Telecom Italia WSN Berkeley Lab, Berkeley, USA)
Piergiuseppe Di Marco, Carlo Fischione
(Royal Institute of Technology, Sweden)

HE-MAC: Hop Extended MAC Protocol for Wireless Sensor Networks
Kyong-Tak Cho, Saewoong Bahk (Seoul National University, Korea)

MRSD: Multirate-based Service Differentiation for the IEEE 802.15.4 Wireless Sensor Network
Chewoo Na, Yaling Yang (Virginia Polytechnic Institute / State University, USA)

SPARE MAC Enhanced: A Dynamic TDMA Protocol for Wireless Sensor Networks
Fabio Turati, Matteo Cesana (Politecnico di Milano, Italy)
Luca Campelli (CEFRIEL Politecnico di Milano, Italy)

2C-WSN: A Configuration Protocol based on TDMA Communications over WSN
Fernando Royo (University of Castilla-La Mancha, Spain)
Miguel Lopez-Guerrero (Metropolitan Autonomous University, Mexico)
Luis Orozco-Barbosa, Teresa Olivares (University of Castilla-La Mancha, Spain)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Honolulu Suite 3

AHSN-06: WSNs II

Chair: Xi Zhang (Texas A&M University, USA)

Implementing Information Paths in a Dense Wireless Sensor Network
Masoumeh Haghpanahi, Mehdi Kalantari, Mark Shayman
(University of Maryland, USA)

Fast Sensory Data Collection By Mobility-based Topology Exploration
Constantinos Marios Angelopoulos, Sotiris Nikoletseas
(University of Patras / Computer Technology Institute, Greece)

Minimal Exposure Path Algorithms for Directional Sensor Networks
Liang Liu, Xi Zhang (Texas A&M University, USA)
Huadong Ma (Beijing University of Posts and Telecommunications, China)

A Fault Tolerant Dynamic Clustering Protocol of Wireless Sensor Networks
Lutful Karim, Nidal Nasser (University of Guelph, Canada)
Tarek Sheltami (King Fahd University of Petroleum & Minerals, Saudi Arabia)

Accelerating Initialization for Sensor Networks
Luoyi Fu, Linghe Kong, Xuemei Liu, Min-You Wu
(Shanghai Jiao Tong University, China)

Event Reporting on Continuous Monitoring Wireless Sensor Networks
Mario E. Rivero-Angeles (Institut National de Recherche en Informatique et en Automatique/UPITA-IPN, France)
Nizar Bouabdallah (Institut National de Recherche en Informatique et en Automatique, France)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Coral Ballroom Lounge

AHSN-25: Topics in Ad Hoc Sensor and Mesh Networking II (Poster)

Chair: Yasamin Mostofi (University of New Mexico, USA)

Performance Evaluation of Asynchronous Ranging Algorithms
Hakyong Kim (LG Dacom, Korea)

Transmission Delay Analysis with Finite Coding Length in Wireless Cooperative Networks
Zhengguo Sheng (Imperial College London, UK)
Zhiguo Ding (Lancaster University, UK)
Kin K. Leung (Imperial College, UK)

Adaptive Optimal Buffer Management Policies for Realistic DTN
Yong Li, Mengjiong Qian, Depeng Jin, Li Su, Lieguang Zeng
(Tsinghua University, China)

Range-only Tracking in Multipath Environments - An Algorithm Based on Particle Filtering
Thuraiappah Sathyan, Mark Hedley
(Commonwealth Scientific and Industrial Research Organization, Australia)

Fusion and Diversity Trade-offs in Cooperative Estimation over Fading Channels
Mehrzad Malmirchegini, Yasamin Mostofi (University of New Mexico, USA)

Effect of Jamming Signals on Wireless Ad Hoc and Sensor Networks
Jahangir Sarker, Hussein Mouftah (University of Ottawa, Canada)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Iolani Suite 5 – 6

CISS-02: Sensor and Ad Hoc Network Security

Chair: Abderrahim Benslimane (University of Avignon & LIA/CERI, France)

Trust-Aware In-Network Aggregation for Wireless Sensor Networks
Hongmei Deng, Guang Jin, Kun Sun, Roger Xu, Margaret Lyell
(Intelligent Automation Inc., USA)
Jahn Luke (AFRL/RYTC, USA)

Software-Based Remote Code Attestation in Wireless Sensor Network
Tamer AbuHmed, Ninbold Nyamaa, DaeHun Nyang (Inha University, Korea)

An Efficient Post-Deployment Key Establishment Scheme for Heterogeneous Sensor Networks
Paul Loree, Kendall Nygard (North Dakota State University, USA)
Xiaojiang Du (Temple University, USA)

Secure Communication among Cell Phones and Sensor Networks
Arjan Durresi (Indiana University-Purdue University Indianapolis, USA)
Vamsi Paruchuri (University of Central Arkansas, USA)

Multi-path Key Establishment against REM Attacks in Wireless Ad Hoc Networks
Tian Lan, Ruby Lee, Mung Chiang (Princeton University, USA)

A Novel Framework for Message Authentication in Vehicular Communication Networks
Hong Wen, Pin-Han Ho, Guang Gong (University of Waterloo, Canada)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Kahili Suite 1

CQPRM-02: Quality and Performance in Wireless and Mobile Networks I

Chair: Tommaso Pecorella (Università di Firenze & CNIT, Italy)

QoS Scheduling for Heterogeneous Traffic in OFDMA-based Wireless Systems
Youngki Kim (KT, Korea)
Kyuho Son, Song Chong (KAIST, Korea)

Admission Control in the IEEE 802.11e WLANs based on Analytical Modelling and Game Theory
Jia Hu, Geyong Min (University of Bradford, UK)
Weijia Jia (City University of Hong Kong, China)
Mike E. Woodward (University of Bradford, UK)

Measurements of Multicast Service Discovery in a Campus Wireless Network
Se Gi Hong, Suman Srinivasan, Henning Schulzrinne (Columbia University, USA)

A Link Level Efficiency Measure for Wireless Home Area Networks
Oliver Hoffmann, Ruediger Kays
(Dortmund University of Technology, Germany)

Optimization of Energy Efficient Transmission in Underwater Sensor Networks
Hongkun Yang, Bin Liu, Fengyuan Ren, Hao Wen, Chuang Lin
(Tsinghua University, China)

Modeling User Cooperation Problem in Mobile Overlay Multicast as a Multi-agent System
Makoto Yoshino, Hiroyuki Kubo, Ryoichi Shinkuma, Tatsuro Takahashi
(Kyoto University, Japan)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Sea Pearl Suite 5 – 6

CSS-02: Fixed and Mobile Service Platforms

Chair: Jalel Ben-othman (University of Versailles, France)

Design and Implementation of Aggregation Platform for Extended Ethernet Transport and Services
Shu Xiao (Cisco Systems, Inc., USA)
Chaoping Wu (Applied Micro Circuits Corporation, USA)
Sathish Teganahalli, Shakeel Ahmed, Hao Tran, Rajashekhar Reddy
(Cisco Systems, Inc., USA)

A Flow-based Traffic Model for SIP Messages in IMS
Jie Xiao, Changcheng Huang, James Yan (Carleton University, Canada)

Applying Recommender System based Mashup to Web-Telecom Hybrid Service Creation
Guo Jie, Cheng Bo, Chen Junliang, Lix Xiangtao
(Beijing University of Posts and Telecommunications, China)

On the Performance Gains of VoIP Aggregation and ROHC over a WirelessMAN-OFDMA Air Interface
Jarno Pinola, Esa Piri, Kostas Pentikousis
(VTT Technical Research Centre of Finland, Finland)

Cross-Layer Based Data Management in Mobile Ad Hoc Networks
Mieso K. Denko, Jun Tian, Thabo K. R. Nkwe (University of Guelph, Canada)
Mohammad S. Obaidat (Monmouth University, USA)

SV-BCMCS: Scalable Video Multicast in Hybrid 3G/Ad Hoc Networks
Sha Hua (Polytechnic Institute of New York University, USA)
Yang Guo (Thomson, USA)
Yong Liu (Polytechnic Institute of New York University, USA)
Hang Liu (Thomson Inc., USA)
Shivendra Panwar (Polytechnic Institute of New York University, USA)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Sea Pearl Suite 3 – 4

CTS-02: MIMO and OFDM

Chair: Robert Heath (University of Texas, Austin, USA)

Analysis of Low Complexity Max Log MAP Detector and MMSE Detector for Interference Suppression in Correlated Fading
Rizwan Ghaffar, Raymond Knopp (Eurecom, France)

Interference Cancellation Based on Divergence Minimization for MIMO-OFDM Receivers
Carles Navarro Manchon, Gunvor Elisabeth Kirkelund, Bernard Fleury, Preben Mogensen, Luc Deneire, Troels Sørensen (Aalborg University, Denmark)
Christian Rom (Infineon Technologies, Denmark)

Effect of I/Q Imbalance on Pilot Design for MIMO OFDM Channel Estimation
Hlaing Minn, Daniel Munoz (University of Texas, Dallas, USA)

Symbol-Wise Beamforming for Co-Channel Interference Reduction in MIMO-OFDM Systems
André Pollok, Nick Letzepis, William G. Cowley (University of South Australia, Australia)

BER Analysis for MIMO-OFDM Beamforming with MRC under Channel Prediction and Interpolation Errors
F. Javier Lopez-Martinez, Eduardo Martos-Naya, Jose F. Paris (University of Málaga, Spain)
Andrea Goldsmith (Stanford University, USA)

Low-Complexity OFDM Channel Estimation in the Presence of I/Q Imbalance and Phase Noise
Payam Rabiei, Won Namgoong, Naofal Al-Dhahir (University of Texas, Dallas, USA)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Lehua Suite

NGNI-02: Emerging Networking II

Chair: TBD

On the Efficiency of Inter-Domain State Advertising in Multi-Domain Networks
Yingdi Yu, Yaohui Jin, Weiqiang Sun, Wei Guo, Weisheng Hu (Shanghai Jiao Tong University, China)

ARROW-TCP: Accelerating Transmission toward Efficiency and Fairness for High-speed Networks
Jianxin Wang, Liang Rong (Central South University, China)
Xi Zhang, Jianer Chen (Texas A&M University, USA)

Adaptive Dynamic Routing Supporting Service Management for Future Internet
Sasitharan Balasubramaniam, Dimitri Botvich, Ray Carroll, Julien Mineraud, William Donnelly (Waterford Institute of Technology, Ireland)
Tadashi Nakano (Osaka University, Japan)
Tatsuya Suda (University of California, Irvine, USA)

On Handover Procedure with Data Forwarding for Reducing Buffered User Data in Base Stations
Yoshinori Kitatsuji, Yujin Noishiki, Hidetoshi Yokota (KDDI R&D Laboratories Inc., Japan)

A Distribution-Based Approach to Anomaly Detection for 3G Mobile Networks
Alessandro D'Alconzo (Forschungszentrum Telekommunikation Wien, Austria)
Angelo Coluccia, Fabio Ricciato (University of Salento, Italy)
Peter Romirer-Maierhofer (Forschungszentrum Telekommunikation Wien, Austria)

Towards Green Broadband Access Networks
Pulak Chowdhury, Massimo Tornatore, Suman Sarkar, Biswanath Mukherjee (University of California, Davis, USA)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Coral Ballroom Lounge

NGNI-12: Routing & Switching V (Poster)

Chair: Seshadri Mohan (University of Arkansas, Little Rock, USA)

Energy-Efficient Multi-Pipeline Architecture for Terabit Packet Classification
Weirong Jiang, Viktor Prasanna (University of Southern California, USA)

Frame-scheduling for Input-queued Switches with Energy Reconfiguration Costs
Andrea Bianco, Paolo Giaccone, Marco Ricca (Politecnico di Torino, Italy)

Traffic Grooming: a Changing Role in Green Optical Networks
Shu Huang (Renaissance Computing Institute, USA)
Deepa Seshadri, Rudra Dutta (North Carolina State University, USA)

ClassBenchv6: An IPv6 Packet Classification Benchmark
Qiong Sun, XiaoHong Huang, Wei Yang, XiaoJu Zhou, Yan Ma (Beijing University of Posts and Telecommunications, China)
Cong Wang (Dublin City University, Ireland)

Hole Reshaping Routing in Large-Scale Mobile Ad Hoc Networks
Peiqiang Li, Guojun Wang (Central South University, China)
Jie Wu (Florida Atlantic University, USA)
Hong-Chuan Yang (University of Victoria, Canada)

PreDA: Predicate Routing for DTN Architectures over MANET
Flavio Esposito, Ibrahim Matta (Boston University, USA)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Iolani Suite 1 – 2

ONS-02: Survivability and Reconfiguration

Chair: Jason Jue (University of Texas, Dallas, USA)

Analyzing Two Conflicting Objectives of the WDM Lightpath Network Reconfiguration Problem
Fernando Solano Donado (Warsaw University of Technology, Poland)

Tree-based Protection of Multicast Services in WDM Mesh Networks
Long Long, Ahmed Kamal (Iowa State University, USA)

Performance Analysis of Nature Inspired Heuristics for Survivable Virtual Topology Mapping
Fatma Corut Ergin (Marmara University, Turkey)
Elif Kaldirim, Aysegul Yayimli, Sima Uyar (Istanbul Technical University, Turkey)

Differentiated Quality-of-Service in Survivable WDM Mesh Networks
Samir Sebbah, Brigitte Jaumard (Concordia University, Canada)

Handling Double-Link Failures in Metro Ethernet Networks Using Fast Spanning Tree Reconnection
Jian Qiu, Gurusamy Mohan, Kee Chaing Chua, Yong Liu (National University of Singapore, Singapore)

A Cross-Layer ILP Formulation for Finding p-Cycles in All-Optical Networks
Amir Askarian, Suresh Subramaniam (George Washington University, USA)
Maite Brandt-Pearce (University of Virginia, USA)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Sea Pearl Suite 1 – 2

SAC(CRN)-02: Performance Analysis of Cognitive Radio Networks

Chair: Linda Jiang Xie (University of North Carolina, Charlotte, USA)

On Outage Capacity of Secondary Users in Fading Cognitive Radio Networks with Primary User's Outage Constraint
Xin Kang (National University of Singapore, Singapore)
Rui Zhang, Ying-Chang Liang (Institute for Infocomm Research, Singapore)
Hari Krishna Garg (National University of Singapore, Singapore)

Channel Capacity Limits of Cognitive Radio with Imperfect Channel Knowledge
Himal Suraweera (National University of Singapore, Singapore)
Peter Smith (University of Canterbury, New Zealand)
Mansoor Shafi (Telecom New Zealand, New Zealand)
Michael Faulkner (Victoria University, Australia)

Achievable Capacity of a Spectrum Sharing System over Hyper Fading Channels
Sabit Ekin (Texas A&M University at Qatar, Qatar)
Ferkan Yilmaz (KAUST, Saudi Arabia)
Hasari Celebi, Khalid A. Qaraqe (Texas A&M University at Qatar, Qatar)
Mohamed-Slim Alouini, (KAUST, Saudi Arabia)
Erchin Serpedin (Texas A&M University at Qatar, Qatar)

Achievable Rate of Gaussian Cognitive Z-Interference Channel with Partial Side Information
Yong Peng, Dinesh Rajan (Southern Methodist University, USA)

Capacity Impact of Location-aware Cognitive Sensing
Peng Jia, Mai Vu, Tho Le-Ngoc (McGill University, Canada)

Information Theoretic Results for Three-User Cognitive Radio Channels
Kyatsandra G. Nagananda (Lehigh University, USA)
Chandra Murthy (Indian Institute of Science, India)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Kahili Suite 2

SAC(SSC)-02: Technologies for Next-Generation Satellite and Space Networking

Chair: Igor Bisio (University of Genoa, Italy)

Routing Decisions Independent of Queuing Delays in Broadband LEO Networks
Janusz Jurski, Jozef Wozniak (Gdansk University of Technology, Poland)
Analysis of Uncoordinated ISL Networks
William G. Cowley, Marc P. Lavenant (University of South Australia, Australia)

The Single Frequency Satellite Network Concept: Multiple Beams for Unified Coverage
Giovanni E. Corazza, Claudio Palestini, Enzo Alberto Candreva, Alessandro Vanelli-Coralli (University of Bologna, Italy)

Experimental Evaluation of Delay Tolerant Networking (DTN) Protocols for Long-Delay Cislunar Communications
Ruhai Wang, Xuan Wu, Tiaotiao Wang (Lamar University, USA)
Tarik Taleb (NEC Europe Ltds, Germany)

Design and Evaluation Guidelines for Bandwidth Allocation Solutions in Satellite Environments
Igor Bisio, Mario Marchese (University of Genoa, Italy)

DART: Enhancing Data Acceleration with Compression for Satellite Links
Thava Iyer, Roksana Boreli, Golam Sarwar, Christoph Dwertmann (Information and Communications Technology Centre of Excellence, Australia)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Iolani Suite 3 – 4

SPC-02: Channel Estimation, Modeling and Equalization I

Chairs: Chintha Tellambura (University of Alberta, Canada)
Tomohiko Taniguchi (Fujitsu Laboratories Ltd., Japan)

Blind Channel Equalization Using Expectation Maximization of Auxiliary Objective Function for Complex Constellations
Dongxin Xu (Infoture Inc., USA)
Kun Yan, Hsiao-Chun Wu (Louisiana State University, USA)

Joint Frequency Offset and Channel Estimation Methods for Two-Way Relay Networks
Gongpu Wang (University of Alberta, Canada)
Feifei Gao (Jacobs University, Bremen, Germany)
Chintha Tellambura (University of Alberta, Canada)

An EM Algorithm for Path Delay and Complex Gain Estimation of Slowly Varying Fading Channel for CPM Signals
Habti Abeida, Jean-Marc Brossier, Laurent Ros, Jordi Vilà-Valls (GIPSA-lab/DIS, France)

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

Statistical Modeling of Co-Channel Interference
Kapil Gulati, Aditya Chopra, Brian L. Evans (University of Texas, Austin, USA)
Keith R. Tinsley (Intel Corporation, USA)

Tri-diagonalizing Approach on Frequency Domain Equalization in a Doubly-selective Channel
Keisuke Saito, Julian Webber, Toshihiko Nishimura, Takeo Ohgane, Yasutaka Ogawa (Hokkaido University, Japan)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: South Pacific Ballroom 1

WCS-05: Cooperative Communication: Beamforming

Chair: Tony Q. S. Quek (Institute for Infocomm Research & Nanyang Technological University, Singapore)

Effect of Feedback Delay on Downlink Amplify-and-Forward Relaying with Beamforming
Himal A. Suraweera (National University of Singapore, Singapore)
Theodoros A. Tsiftsis, George K. Karagiannidis (Aristotle University of Thessaloniki, Greece)
Michael Faulkner (Victoria University, Australia)

Power Allocation for Beamforming Relay Networks under Channel Uncertainties
Jingon Joung, Ali H. Sayed (University of California, Los Angeles, USA)

Downlink Distributed Beamforming through Relay Networks
Yi Zheng, Steven Blostein (Queen's University, Canada)

Distributed Beamforming in Multiuser Multi-relay Networks with Guaranteed QoS
Duy H. N. Nguyen, Ha H. Nguyen, Tung T. Pham (University of Saskatchewan, Canada)

Cooperative Multi-User MIMO Wireless Systems Employing Precoding and Beamforming
Wibowo Hardjawana, Branka Vucetic, Yonghui Li, Zhendong Zhou (University of Sydney, Australia)

An Optimized Cooperative Beamforming Scheme in MIMO Relay Broadcast Channels
Zhendong Zhou, Branka Vucetic (University of Sydney, Australia)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: South Pacific Ballroom 2

WCS-06: Limited Feedback MIMO

Chair: Megumi Kaneko (Kyoto University, Japan)

Vector Perturbation Precoding for MIMO Broadcast Channel with Quantized Channel Feedback
Peng Lu, Hong-Chuan Yang (University of Victoria, Canada)

Trellis Exploration Algorithm Aided Precoder Design in Maximizing MIMO Capacity with Limited Feedback
Dalin Zhu, Balasubramaniam Natarajan (Kansas State University, USA)

Joint Power Control and Beamforming Codebook Design for MISO Channels with Limited Feedback
Behrouz Khoshnevis, Wei Yu (University of Toronto, Canada)

Limited Feedback in Multiuser MIMO OFDM Systems Based on Rate Approximation
Jan Schreck, Peter Jung, Gerhard Wunder (Fraunhofer German-Sino Lab for Mobile Communications at Heinrich-Hertz-Institut, Germany)
Michael Ohm, Hans-Peter Mayer (Alcatel-Lucent Bell Labs, Germany)

Distributed Multicell and Multiantenna Precoding: Characterization and Performance Evaluation
Emil Björnson (Royal Institute of Technology, Sweden)
Randa Zakhour, David Gesbert (Eurecom, France)
Björn Ottersten (Royal Institute of Technology, Sweden)

Multi-Antenna Downlink Spatial Division Multiplexing with Opportunistic Feedback
Taiwen Tang, Teng Joon Lim (University of Toronto, Canada)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: South Pacific Ballroom 3

WCS-07: Resource Allocation for OFDMA

Chair: Xiaoli Chu (King's College London, UK)

Optimal Resource Allocation in the OFDMA Downlink with Feedback of Buffer State Information
Rajiv Agarwal, John M. Cioffi (Stanford University, USA)

A Graph-based Resource Allocation Algorithm for Downlink MIMO-OFDMA Networks
Ahmed Zaki, Abraham O. Fapojuwo (University of Calgary, Canada)

Delay-Optimal Resource Allocation for OFDMA Systems via Stochastic Approximation
Vincent K. N. Lau, Ying Cui
(Hong Kong University of Science and Technology, Hong Kong)

A Distributed Power Allocation Algorithm with Inter-cell Interference Coordination for Multi-cell OFDMA Systems
Gangming Lv, Shihua Zhu, Hui Hui (Xi'an Jiaotong University, China)

On the Modeling of a Non-cooperative Multicell OFDMA Resource Allocation Game with Integer Bit-Loading
Zhenyu Liang (National University of Singapore, Singapore)
Yong Huat Chew (Institute for Infocomm Research, Singapore)
Chi Chung Ko (National University of Singapore, Singapore)

A Fair Radio Resource Allocation Scheme for Ubiquitous High-data-rate Coverage in OFDMA-based Cellular Relay Networks
Mohamed Salem, Abdulkareem Adinoyi, Halim Yanikomeroglu, David Falconer (Carleton University, Canada)
Young-Doo Kim (Samsung Electronics, Korea)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: South Pacific Ballroom 4

WCS-08: Equalization

Chair: Xiaolin Hou
(DOCOMO Beijing Communications Laboratories, Ltd., China)

Semi-Blind Gradient-Newton CMA and SDD Algorithm for MIMO Space-Time Equalisation
S. Chen, L. Hanzo, H. -T. Cheng (University of Southampton, UK)

Layered Frequency-Domain Equalization for Single Carrier MIMO Systems with Multiple Carrier Frequency Offsets
Jian Zhang, Yahong Zheng
(Missouri University of Science and Technology, USA)

A Low Complexity Two Stage MMSE-Based Receiver for Single-Carrier Frequency-Domain Equalization Transmissions over Frequency-Selective Channels
Homa Eghbali, Sami Muhaidat (Simon Fraser University, Canada)
Naofal Al-Dhahir (University of Texas, Dallas, USA)

Training Sequence versus Cyclic Prefix for CPM with Frequency Domain Equalization
Wim Van Thillo, Valery Ramon, Andre Bourdoux
(Interuniversity Micro-Electronics Center, Belgium)
François Horlin (Université Libre de Bruxelles, Belgium)
Kristof Sleurs (Katholieke Universiteit Leuven, Belgium)
Rudy Lauwereins (Interuniversity Micro-Electronics Center, Belgium)

Space-Time Equalization for Asynchronous Multiuser Bit-Interleaved Coded OFDM
Taiwen Tang, Teng Joon Lim (University of Toronto, Canada)

Iterative versus Adaptive Equalizers in Time-Variant Channels
Clemens Buchacher, Joachim Wehinger (Infineon Technologies AG, Germany)
Mario Huemer (Klagenfurt University, Austria)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Coral Ballroom Lounge

WCS-38: Topics in Propagation and Channel Modeling (Poster)

Chair: Camillo Anthony Gentile
(National Institute of Standards and Technology, USA)

Reflection Coefficient Measurement for House Flooring Materials at 57-64 GHz
Javad Ahmadi-Shokouh (University of Manitoba, Canada)
Sima Noghanian (University of North Dakota, USA)
Ekram Hossain, Majid Ostad-Rahimi, James Dietrich
(University of Manitoba, Canada)

SAR Analysis in Dispersive Tissues for In Vivo UWB Body Area Networks
Toshiaki Koike-Akino (Harvard University, USA)

A Comprehensive Spatial-Temporal Channel Propagation Model for the Ultra-Wideband Spectrum 2-8 GHz
Camillo Gentile, Sofia Martinez Lopez, Alfred Kik
(National Institute of Standards and Technology, USA)

On-chip Integrated Antenna Structures in CMOS for 60 GHz WPAN Systems
Felix Gutierrez Jr., Kristen Parrish, Theodore J. Rappaport
(University of Texas, Austin, USA)

Improved Channel Sounding using Zero Correlation Zone Sequences
Reginald Cooper, Daniel Stancil (Carnegie Mellon University, USA)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Coral Ballroom 1

WNS-03: Cross-layer Design

Chair: Hans-Juergen Zepernick (Blekinge Institute of Technology, Sweden)

Power Allocation for Cooperative Diversity Networks with Inaccurate CSI: A Robust and Constrained Kalman Filtering Approach
Mohamad Khattar Awad, Veluppillai Mahinthan, Xeumin (Sherman) Shen, Jon W. Mark (University of Waterloo, Canada)

Multi-Team Data Flow Optimization in Wireless Multi-rate Multi-hop Networks
Qian Zhang (Hong Kong University of Science and Technology, Hong Kong)

Hierarchical Network Formation Games in the Uplink of Multi-Hop Wireless Networks
Walid Saad (UNIK - University of Oslo, Norway)
Quanyan Zhu, Tamer Basar (University of Illinois, Champaign-Urbana, USA)
Zhu Han (University of Houston, USA)
Are Hjørungnes (UNIK - University of Oslo, Norway)

Distributed Joint Resource Allocation in Multi-Radio Multi-Channel Wireless Mesh Networks
Kewei Li, Furong Wang
(Huazhong University of Science and Technology, China)
Yan Zhang (Simula Research Laboratory, Norway)
Fan Zhang, Xu Xie (Huazhong University of Science and Technology, China)

Using 802.11 MAC Retransmissions for Path Selection in Multi-homed Transport Layer Protocols
Sheila Fallon, Paul Jacob, Yuansong Qiao
(Athlone Institute of Technology, Ireland)
Liam Murphy (University College Dublin, Ireland)
Austin Hanley (Athlone Institute of Technology, Ireland)

Cross-Layer Resource Allocation for Efficient Message Dissemination in Rural Infostation Systems
Hao Liang, Weihua Zhuang (University of Waterloo, Canada)

Tuesday, 1 December 2009 • 14:00 – 16:00
Location: Coral Ballroom 2

WNS-04: Handoff and Mobility Management

Chair: Vincent Wong (University of British Columbia, Canada)

Distributed or Centralized Mobility?
Philippe Bertin, Servane Bonjour (Orange Labs, France)
Jean-Marie Bonnin (Telecom Bretagne, France)

A QoS-Based Vertical Handoff Scheme for Interworking of WLAN and WiMAX
Dong Ma, Maode Ma (Nanyang Technological University, Singapore)

A Group-based Handoff Scheme for Correlated Mobile Nodes in Proxy Mobile IPv6
Yong Li, Yurong Jiang, Haibo Su, Depeng Jin, Li Su, Lieguang Zeng (Tsinghua University, China)

Network-based Micro-Mobility in Wireless Mesh Networks: is MPLS convenient?
Rosario G. Garroppo, Stefano Giordano, Luca Tavanti (University of Pisa, Italy)

Network Friendliness of Mobility Management Protocols
Md Sazzadur Rahman, Mohammed Atiquzzaman
(University of Oklahoma, USA)

UPMT: Universal Per-application Mobility Management using Tunnels
Marco Bonola, Stefano Salsano, Andrea Polidoro
(University of Roma "Tor Vergata", Italy)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Honolulu Suite 1

AHSN-07: WSNs III

Chairs: Yi Shang (University of Missouri, USA)
Arunabha Sen (Arizona State University, USA)

Fusion of Decisions Modeled as Weak Signals in Wireless Sensor Networks
Jintae Park, Kiseon Kim (Gwangju Institute of Science and Technology, Korea)
Eun Ro Kim (Agency for Defense Development, Korea)
Georgy Shevlyakov (St. Petersburg State Polytechnic University, Russia)

Decentralized Cooperative Positioning and Tracking Based on a Weighted Sign Algorithm for Wireless Sensor Networks
Dong-Shing Wu, Chin-Liang Wang (National Tsing Hua University, Taiwan)

Distributed faulty sensor detection
Peng Zhuang, Dan Wang, Yi Shang (University of Missouri - Columbia, USA)

Irregular Sensing Range Detection Algorithm for Coverage Protocols in Wireless Sensor Networks
Xin Fei, Azzedine Boukerche (University of Ottawa, Canada)
Regina Araujo (Federal University of São Carlos, Brazil)

Cooperative Communications with Relay Selection for QoS Provisioning in Wireless Sensor Networks
Xuedong Liang (University of Oslo, Norway)
Ilangko Balasingham (Norwegian University of Science Technology, Norway)
Victor C. M. Leung (University of British Columbia, Canada)

Approximation Algorithm for Avoiding Hotspot Formation of Sensor Networks for Temperature Sensitive Environments
Nibedita Das, Pavel Ghosh, Arunabha Sen (Arizona State University, USA)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Honolulu Suite 2

AHSN-08: Data Collection and Aggregation

Chairs: Xiang-Yang Li (Illinois Institute of Technology, USA)
Daniel Mosse (University of Pittsburgh, USA)

Efficient Data Aggregation in Multi-hop WSNs
XiaoHua Xu, ShiGuang Wang, Xufei Mao, Shao-Jie Tang, Ping Xu, Xiang-Yang Li (Illinois Institute of Technology, USA)

Considering Link Qualities in Fault Tolerant Aggregation in Wireless Sensor Networks
Sameh Gobriel (Intel Corporation, USA)
Sherif Khattab (Cairo University, Egypt)
Daniel Mosse, Rami Melhem (University of Pittsburgh, USA)

Data Collection Capacity of Random-Deployed Wireless Sensor Networks
Siyuan Chen, Yu Wang (Univeristy of North Carolina, Charlotte, USA)
Xiang-Yang Li (Illinois Institute of Technology, USA)
Xinghua Shi (University of Chicago, USA)

Efficient Data Collection for Wireless Networks: Delay and Energy Tradeoffs
Chao Ren (Northwestern Polytechnical University, China)
XuFei Mao, Xiang-Yang Li, Ping Xu (Illinois Institute of Technology, USA)
GuoJun Dai (Hangzhou Dianzi University, China)

Reduce Data Aggregation Latency by Using Partially Overlapped Channels in Sensor Networks
Baobing Wang, Xiaohua Jia (City University of Hong Kong, Hong Kong)

Biased Sink Mobility with Adaptive Stop Times for Low Latency Data Collection in Sensor Networks
Athanasios Kinalis, Sotiris Nikoletseas, Dimitra Patroumpa
(University of Patras / Computer Technology Institute, Greece)
Jose Rolim (Centre Universitaire d' Informatique, Switzerland)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Honolulu Suite 3

AHSN-09: WMNs

Chair: Terence D. Todd (McMaster University, Canada)

Route Capacity Estimation Based Admission Control and QoS Routing for Mesh Networks
Chi Harold Liu, Athanasios Gkelias, Kin K. Leung (Imperial College, UK)

On Supporting P2P-based VoD Services over Mesh Networks
Mostafa Fouda (Tohoku University, Japan)
Tarik Taleb (NEC Europe Ltds, Germany)
Mohsen Guizani (Western Michigan University, USA)
Yoshiaki Nemoto, Nei Kato (Tohoku University, Japan)

A Wireless Network Coding Scheme with Forward Error Correction Code in Wireless Mesh Networks
Jeong-Yoon Lee, Woo-Jae Kim, Joo-Young Baek, Young-Joo Suh
(Pohang University of Science and Technology, Korea)

Load-Balancing Gateway Selection Method in Multi-hop Wireless Networks
Kotaro Tada, Miki Yamamoto (Kansai University, Japan)

Managing Traffic Growth in Solar Powered Wireless Mesh Networks
Ghada H. Badawy, Amir A. Sayegh, Terence T. Todd
(McMaster University, Canada)

A Performance Model for Integrated Wireless Mesh Networks and WLANs with Heterogeneous Stations
Yulei Wu, Geyong Min (University of Bradford, UK)
Keqiu Li (Dalian University of Technology, China)
Ahmed Y. Al-Dubai (Napier University, UK)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Coral Ballroom Lounge

AHSN-26: Topics in Ad Hoc Sensor and Mesh Networking III (Poster)

Chair: Subhrakanti Dey (University of Melbourne, Australia)

An Adaptive Forwarding Scheme for Message Delivery over Delay Tolerant Networks
Fen Hou, Xeumin (Sherman) Shen (University of Waterloo, Canada)

Distortion Outage Minimisation in Rayleigh Fading Using Limited Feedback
Chih-Hong Wang, Dey Subhrakanti (University of Melbourne, Australia)

Mechanism for Coding-Aware Opportunistic Retransmission in Wireless Networks
Yan Yan, Zhuang Zhao, Baoxian Zhang (Chinese Academy of Sciences, China)
Hussein Mouftah (University of Ottawa, Canada)
Jian Ma (Nokia Research Center, China)

Generalized Second Price Auction in Multi-Path Routing with Selfish Nodes
Xueyuan Su (Yale University, USA)
Sammy Chan, Gang Peng (City University of Hong Kong, Hong Kong)

Impact of Information on Network Performance -- An Information-Theoretic Perspective
Jun Hong, Victor O. K. Li (University of Hong Kong, Hong Kong)

Probabilistic Voting-Theoretic Strategies for Resource Allocation in Heterogenous Wireless Networks
Amitav Mukherjee (University of California, Irvine, USA)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Iolani Suite 5 – 6

CISS-03: Anomaly Detection

Chair: Thomas Gamer (Universität Karlsruhe, Germany)

Online Anomaly Detection using KDE
Tarem Ahmed (BRAC University, Bangladesh)

Optimizing Network Anomaly Detection Scheme Using Instance Selection Mechanism
Yang Li (Chinese Academy of Sciences, China and Mobile Research Institute, China)
Tian-Bo Lu (Beijing University of Posts Telecommunications, China)
Li Guo (Chinese Academy of Sciences, China)
Zhi-Hong Tian (Harbin Institute of Technology, China)
Lin Qi (University of Maryland, USA)

Anomaly-based Identification of Large-Scale Attacks
Thomas Gamer (University of Karlsruhe, Germany)

Forecasting-based Sampling Decision for Accurate and Scalable Anomaly Detection
Fazirulhisyam Hashim, Abbas Jamalipour (University of Sydney, Australia)

AnomBench: A Benchmark for Volume-Based Internet Anomaly Detection
Shashank Shanbhag, Tilman Wolf (University of Massachusetts, USA)

BANBAD -- A Centralized Belief-Networks-Based Anomaly Detection Algorithm for MANETs
Chaoli Cai (Western Michigan University, USA)
Aakash Gupta (University of Michigan, USA)
Rajib Paul (Western Michigan University, USA)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Kahili Suites 1

CQPRM-03: Quality and Performance in Wireless and Mobile Networks II

Chair: Stefano Giordano (University of Pisa, Italy)

Capacity Gains of Some Frequency Reuse Schemes in OFDMA Networks
Thomas Bonald, Nidhi Hegde (Orange Labs, France)

Traffic-based Study of Femtocell Access Policy Impacts on HSPA Service Quality
Shaunak Joshi, Ray Cheung, Pooya Monajemi, John D. Villasenor
(University of California, Los Angeles, USA)

On the Effect of Feedback Errors in Markov Models for SR ARQ Packet Delays
Leonardo Badia (IMT Lucca Institute for Advanced Studies, Italy)

The Impact of Channel Variations on Wireless Distributed Computing Networks
Xuetao Chen, Timothy R. Newman, Dinesh Datla, Tamal Bose,
Jeffrey H. Reed (Wireless@VT, USA)

Uplink Scheduler and Admission Control for the IEEE 802.16 Standard
Juliana Borin, Nelson L. S. de Fonseca (University of Campinas, Brazil)

The Impact of Mobility on OFDMA-based Cellular Systems with Reuse Partitioning
Rubén Murillo-Pérez, Carmen Rodríguez Estrello, Felipe Cruz-Pérez
(Instituto Politecnico Nacional, Mexico)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Sea Pearl Suite 5 – 6

CSS-03: Multimedia Applications and Services

Chair: Shiwen Mao (Auburn University, USA)

Distortion Prediction for Video Quality Optimization over Packet Switched Networks
Andrea Vesco, Enrico Masala, Carlo Novara (Politecnico di Torino, Italy)

Distributed Scheduling for Video Streaming over Multi-Channel Multi-Radio Multi-Hop Wireless Networks
Liang Zhou, Benoit Geller (ENSTA-ParisTech, France)
Baoyu Zheng, Sulan Tang, Jingwu Cui, Dengyin Zhang
(Nanjing University of Posts and Telecommunications, China)

Analysis and Design of a Proportional-Integral Rate Controller for Streaming Videos
Yingsong Huang, Shiwen Mao (Auburn University, USA)

Buffer-based Low-Delay Playout Control Methods for IPTV Terminals
Masayuki Baba, Hiroyuki Kurokawa, Yoshiaki Kato
(Mitsubishi Electric Corporation, Japan)

A Suboptimal Network Utility Maximization Approach for Scalable Multimedia Applications
Mohammad S. Talebi, Ahmad Khonsari, Mohammad H. Hajiesmaili (IPM, Iran)
Sina Jafarpour (Princeton University, USA)

Analysis of Patching Scheme from a Practical Perspective
Joonho Choi, Biswanath Mukherjee (University of California, Davis, USA)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Sea Pearl Suite 3 – 4

CTS-03: Training and Feedback

Chair: Nihar Jindal (University of Minnesota, USA)

Hybrid Pilot/Quantization based Feedback in Multi-Antenna TDD Systems
Umer Salim, David Gesbert, Dirk Slock (Eurecom, France)
Zafer Beyaztas (Accenture, The Netherlands)

How Much Training is needed for Iterative Multiuser Detection and Decoding?
Mikko Vehkaperä (Norwegian University of Science and Technology, Norway)
Keigo Takeuchi (University of Electro-Communications, Japan)
Ralf Mueller (Norwegian University of Science and Technology, Norway)
Toshiyuki Tanaka (Kyoto University, Japan)

On Active Learning and Supervised Transmission of Spectrum Sharing Based Cognitive Radios by Exploiting Hidden Primary Radio Feedback
Rui Zhang (Institute of Infocomm Research, Singapore)

Coding Versus ARQ in Fading Channels: How Reliable Should the PHY Be?
Peng Wu, Nihar Jindal (University of Minnesota, USA)

MIMO Precoding with Limited Rate Feedback: Simple Quantizers Work Well
Mingguang Xu, Dongning Guo, Mike Honig (Northwestern University, USA)

Iterative NR Decoding and Channel Estimation for TDS-OFDM System
Qiuliang Xie, Kewu Peng, Fang Yang, Zhixing Yang
(Tsinghua University, China)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Coral Ballroom Lounge

CTS-14: Topics in Communications Theory I (Poster)

Chair: Tony Q. S. Quek (Institute for Infocomm Research & Nanyang Technological University, Singapore)

A Fresh Look at Multicanonical Monte Carlo from a Telecom Perspective
Alberto Bononi (Università di Parma, Italy)
Leslie Rusch, Amirhossein Ghazisaeidi, Francesco Vacondio
(Laval University, Canada)
Nicola Rossi (Universitá di Parma, Italy)

Coded-sequence Self-encoded Spread Spectrum Communications
Poomathi Duraisamy, Lim Nguyen (University of Nebraska-Lincoln, USA)

Dual Optimal Resource Allocation for Heterogeneous Transmission in OFDMA Systems
Chunhui Liu, Anke Schmeink, Rudolf Mathar
(RWTH Aachen University, Germany)

Product of the Powers of Generalized Nakagami-m Variates and Performance of Cascaded Fading Channels
Ferkan Yilmaz, Mohamed-Slim Alouini (KAUST, Saudi Arabia)

Near-complementary Sequences of Various Lengths and Low PMEPR for Multicarrier Communications
Nam Yul Yu (Lakehead University, Canada)
Guang Gong (University of Waterloo, Canada)

Cross-layer Resource Allocation for Wireless Networks via Signomial Programming
Chathuranga Weeraddana, Marian Codreanu, Matti Latva-aho
(University of Oulu, Finland)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Lehua Suite

NGNI-03: Peer-to-Peer Networking

Chair: Ashwin A. Gumaste (Indian Institute of Technology, Bombay / Massachusetts Institute of Technology, India)

P2P-ISP Cooperation: Risks and Mitigation in Multiple-ISP Networks
Aliye Ozge Kaya (Rutgers University, USA)
Mung Chiang (Princeton University, USA)
Wade Trappe (Rutgers University, USA)

Peer-to-Peer Single Hop Distributed Hash Tables
Luiz Monnerat (Petrobras, Brazil)
Claudio Amorim (Federal University of Rio de Janeiro, Brazil)

Scalability and Peer Churning in IP-TV: An Analytical Insight
Maria Luisa Merani, Gian Paolo Leonardi, Daniela Saladino
(University of Modena and Reggio Emilia, Italy)

SPID: A Novel P2P-based Information Diffusion Scheme for Mobile Networks
Mohammad Towhidul Islam, Mursalin Akon, Xeumin (Sherman) Shen
(University of Waterloo, Canada)

A Construction Scheme for Scale Free DHT-Based Networks
Salma Ktari, Artur Hecker, Houda Labiod (TELECOM ParisTech, France)

SFDHT: A DHT Designed for Server Farm
Lichun Li, Chunhong Zhang, Wei Mi, Yonghui Zhang, Tao Ma, Yang Ji, Xiaofeng Qiu (Beijing University of Posts and Telecommunications, China)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Iolani Suite 1 – 2

ONS-03: Optical Burst and Packet Switching

Chair: Ahmed Kamal (Iowa State University, USA)

Contention Resolution in Optical Burst Switched Networks using Spectral-Amplitude-Coding Optical Code Division Multiple Access
Mohammad Sowailem, Mohamed Morsy, Hossam Shalaby
(Alexandria University, Egypt)

Packet Loss Differentiation using Network Layer Packet Redundancy in Optical Packet/Burst Switched Networks
Harald Overby (Norwegian University of Science and Technology, Norway)

Scheduling Bursts using Interval Graphs in Optical Burst Switching Networks
Xiaojun Cao, Yichuan Wang, Alexander Zelikovsky
(Georgia State University, USA)

An Absolute and Fair QoS Differentiation Scheme for DWDM OBS Networks
Abdeltouab Belbekkouche, Abdelhakim Hafid, Mariam Tagmouti,
Michel Gendreau (University of Montreal, Canada)

TCP Based Estimation Method for Loss Control in OBS Networks
Mohamed Faten Zhani (UQAM-Canada, ENSI-Tunisia, Canada)
Halima Elbiaze, Wael Hosny, Fouad Aly
(University of Quebec, Montreal, Canada)

Graphical Probabilistic Routing Model for OBS Networks with Realistic Traffic Scenario
Martin Lévesque, Halima Elbiaze (University of Quebec, Montreal, Canada)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Sea Pearl Suite 1 – 2

SAC(CRN)-03: Game Theory for Cognitive Radio Networks

Chair: Dusit Niyato (Nanyang Technological University, Singapore)

A Noncooperative Spectrum Sensing Game with Maximum Network Throughput
Wei Wang, Chen He (Shanghai Jiaotong University, China)

Price of Anarchy for Cognitive MAC Games
Lok Man Law, Jianwei Huang (Chinese University of Hong Kong, Hong Kong)
Mingyan Liu (University of Michigan, USA)
Shuo-yen Li (Chinese University of Hong Kong, Hong Kong)

Optimal Power Allocation Strategy against Jamming Attacks Using the Colonel Blotto Game
Yongle Wu, Beibei Wang, K. J. Ray Liu (University of Maryland, USA)

Dynamic Power Management in Cognitive Radio Networks based on Constrained Stochastic Games
Chia-Wei Wang, Yu-Pin Hsu, Kai-Ten Feng
(National Chiao Tung University, Taiwan)

A Hierarchical Game Approach to Inter-Operator Spectrum Sharing
Mehdi Bennis (University of Oulu, Finland)
Merouane Debbah, Samson Lasaulce (SUPELEC, France)
Alagan Anpalagan (Ryerson University, Canada)

On Spectrum Selection Games in Cognitive Radio Networks
Ilaria Malanchini, Matteo Cesana, Nicola Gatti (Politecnico di Milano, Italy)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Kahili Suite 2

SAC(DS)-01: Advanced Coding and Signal Processing Algorithms in Data Storage

Chairs: Hao Zhong (LSI Corporation, USA)
Fatih Erden (Seagate Technology, USA)

Frame Synchronization for PPM-encoded Longitudinal Position Words in Magnetic Tape Storage
Giovanni Cherubini, Roy D. Cideciyan, Evangelos Eleftheriou, Jens Jelitto
(IBM Research - Zurich, Switzerland)

Compensation of PLL Loop Delay in Read Channels for Tape Storage Systems
Sedat Oelcer, Evangelos Eleftheriou (IBM Research - Zurich, Switzerland)
Robert Hutchins (IBM-STG Tucson, USA)

A New Class of MDS Erasure Codes Based on Graphs
Nattakan Puttarak, Phisan Kaewprapha (Lehigh University, USA)
Boon Chong Ng (Nanyang Technological University, Singapore)
Jing (Tiffany) Li (Lehigh University, USA)

LDPC Decoding Strategies for Two-Dimensional Magnetic Recording
Anantha Raman Krishnan, Rathnakumar Radhakrishnan, Bane Vasic
(University of Arizona, USA)

Performance Evaluation of the Probe Storage Channel
Thomas Parnell (Siglead Europe, UK)
Haralampos Pozidis (IBM Research, Switzerland)
Oleg Zaboronski (University of Warwick, UK)

Maximum-Likelihood Sequence Detector for Dynamic Mode High Density Probe Storage
Naveen Kumar (Iowa State University, USA)
Pranav Agarwal (University of Minnesota, USA)
Aditya Ramamoorthy (Iowa State University, USA)
Murti Salapaka (University of Minnesota, USA)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Iolani Suite 3 – 4

SPC-03: Channel Estimation, Modeling and Equalization II

Chairs: Jingxian Wu (University of Arkansas, USA)
Tomohiko Taniguchi (Fujitsu Laboratories Ltd., Japan)

Improved BER Performance for MIMO-OFDM Systems with Interference Using Joint Parameter Estimation Spatial Filtering aided MAP Detection
Lisheng Fan (Shantou University, China)
Yangyang Zhang (University College London, UK)
Yongquan Jiang (Shantou University, China)
Kai-Kit Wong (University College London, UK)

A Reactive Tabu Search Based Equalizer for UWB MIMO-ISI Channels
Nagaraja Srinidhi, Saif K. Mohammed, Ananthanarayanan Chockalingam
(Indian Institute of Science, India)

Robust Channel Estimation and Detection for Uplink Control Channel in 3GPP-LTE
Ramakrishna Raghavendra (Motorola, India)
Shirish Nagaraj (Motorola, USA)
Pradap Venkatramanan Konda (Motorola, India)
Phil Fleming (Motorola, USA)

Impact of DFE Error Propagation on FEC-Based High-Speed I/O Links
Rajan Narasimha (University of Illinois, Urbana-Champaign, USA)
Nirmal Warke (Texas Instruments Inc, USA)
Naresh Shanbhag (University of Illinois, Urbana-Champaign, USA)

A Single FPGA Filter-Based Multipath Fading Emulator
Saeed Fouladi Fard, Amirhossein Alimohammad (Ukalta Engineering, Canada)
Bruce Cockburn, Christian Schlegel (University of Alberta, Canada)

An Adaptive Approach to Estimation and Compensation of Frequency-Dependent I/Q Imbalances in MIMO-OFDM Systems
Shichuan Ma, Deborah D. Duran, Hamid Sharif, Yaoqing (Lamar) Yang (University of Nebraska-Lincoln, USA)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: South Pacific Ballroom 1

WCS-09: Cooperative Communication: Cellular Networks

Chair: Dong In Kim (Sungkyunkwan University, Korea)

The Resource-Optimized Differentially Modulated Hybrid AF/DF Cooperative Cellular Uplink
Li Wang, Lajos Hanzo (University of Southampton, UK)

Adaptive Multi-Tx Multi-Rx MIMO Transmission Scheme for LTE-Advanced Downlink
Xiaolin Hou, Zhan Zhang, Hidetoshi Kayama (DOCOMO Beijing Labs, China)

On the Performance of Compressed Interference Forwarding for Uplink Base Station Cooperation
Michael Grieger, Patrick Marsch (Dresden University of Technology, Germany)
John M. Cioffi (Stanford University, USA)
Gerhard Fettweis (Dresden University of Technology, Germany)

Multi-user Cooperative Communications with Relay-Coding for Uplink IMT-advanced 4G Systems
Lei Cao (University of Mississippi, USA)
Jinyun Zhang (Mitsubishi Electric Research Laboratories, USA)
Norio Kanno (Mitsubishi Electric Corporation, Japan)

A Decentralized Framework for Dynamic Downlink Base Station Cooperation
Sheng Zhou, Jie Gong, Zhisheng Niu (Tsinghua University, China)
Yunjian Jia (Hitachi, Ltd., Japan)
Peng Yang (Hitachi (China) Research & Development Corporation, China)

Dynamical Cooperative MAC based on Optimal Selection of Multiple Helpers
Yun Li, Bin Cao (Chongqing University of Post and Telecommunications, China)
Chonggang Wang (NEC Laboratories America, USA)
Xiaohu You (Southeast University, China)
Ali Daneshmand (AT&T, USA)
Hongcheng Zhuang (Huawei Technology Co. Ltd, China)
Tao Jiang (Huazhong University of Science and Technology, China)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: South Pacific Ballroom 2

WCS-10: Propagation and Channel Modeling

Chair: Cheng-Xiang Wang (Heriot-Watt University, UK)

Impact of Mutual Coupling on MIMO Vehicle-to-vehicle Systems
Alenka Zajic (Naval Research Laboratory, USA)

A Geometry-Based Stochastic Model for Wideband MIMO Mobile-to-Mobile Channels
Xiang Cheng, Cheng-Xiang Wang (Heriot-Watt University, UK)
David Laurenson (University of Edinburgh, UK)

A Novel Coupling-based Model for Wideband MIMO Channel
Yan Zhang, Xinwei Hu, Yuanzhi Jia, Shidong Zhou, Xiang Chen, Jing Wang (Tsinghua University, China)

Stationarity Test for Wireless Communication Channels
Dmitry Umansky, Matthias Pätzold (University of Agder, Norway)

On the alpha-mu Autocorrelation and Power Spectrum Functions: Field Trials and Validation
Ugo Dias, Michel Yacoub (University of Campinas, Brazil)

Design of Measurement-Based Stochastic Wideband MIMO Channel Simulators
Dmitry Umansky, Matthias Pätzold (University of Agder, Norway)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: South Pacific Ballroom 3

WCS-11: Scheduling

Chair: Ramachandran Venkatesan
(Memorial University of Newfoundland, Canada)

A Game-Theoretic Approach to Decentralized Interference-Avoidance Scheduling for Cellular Systems: Algorithm and Equilibria
Igor Stanojev, Umberto Spagnolini (Politecnico di Milano, Italy)

Channel Aware Distributed Random Access
Guowang Miao, Geoffrey Ye Li (Georgia Institute of Technology, USA)
Ananthram Swami (Army Research Lab., USA)

A Multi-Gbps Millimeter-wave WPAN System based on STDMA with Heuristic Scheduling
Chin-Sean Sum, Zhou Lan, Mohammad Azizur Rahman, Junyi Wang, Tuncer Baykas, Ryuhei Funada, Hiroshi Harada, Shuzo Kato
(National Institute of Information & Communications Technology, Japan)

Channel Norm-Based User Scheduler in Coordinated Multi-Point Systems
Shengqian Han, Chenyang Yang (Beihang University, China)
Mats Bengtsson (Royal Institute of Technology, Sweden)
Ana I. Pérez-Neira (University Politecnica de Catalunya, Spain)

A Low-Complexity Algorithm for Uplink Scheduling in Cooperative Cellular Networks with a Capacity-Constrained Backhaul Infrastructure
Fabian Diehm, Patrick Marsch, Gerhard Fettweis
(Technische Universität Dresden, Germany)
Bhaskar Ramamurthi (Indian Institute of Technology, India)

Weighted-SNR-Based Fair Scheduling for Uplink OFDMA
Yao Ma, Alex Leith (Iowa State University, USA)
Mohamed-Slim Alouini (KAUST, Saudi Arabia)
Xeumin (Sherman) Shen (University of Waterloo, Canada)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: South Pacific Ballroom 4

WCS-12: Channel Estimation and Synchronization

Chair: Weiyi Zhang (North Dakota State University, USA)

CFO Estimation and Compensation in Single Carrier Interleaved FDMA Systems
Yu Zhu (Fudan University, China)
Khaled Ben Letaief (Hong Kong University of Science & Technology, Hong Kong)

Performance of Superimposed Training-Based Channel Estimation in MIMO-CDMA Systems
Ayman Assra, Walaa Hamouda, Amr Youssef (Concordia University, Canada)

OFDM Channel Estimation with Optimal Threshold-Based Selection of CIR Samples
Stefano Rosati, Giovanni Emanuele Corazza, Alessandro Vanelli-Coralli (University of Bologna, Italy)

Optimal Wavelet Design for Multicarrier Modulation with Time Synchronization Error
Madan Kumar Lakshmanan, Homayoun Nikookar, Dzemal Karamehmedović (Delft University of Technology, Netherlands)

Closed-Form Expressions for the Exact Cramér-Rao Bound for Parameter Estimation of Arbitrary Square QAM-Modulated Signals
Faouzi Bellili, Nesrine Atitallah, Sofiène Affes, Alex Stephenne (Institut National de la Recherche Scientifique, Canada)

EM Algorithm for Non-Data-Aided SNR Estimation of Linearly-Modulated Signals over SIMO Channels
Mohamed Ali Boujelben, Faouzi Bellili, Sofiène Affes, Alex Stephenne (Institut National de la Recherche Scientifique, Canada)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Coral Ballroom Lounge

WCS-39: Topics in Resource Management (Poster)

Chair: Hai Jiang (University of Alberta, Canada)

A Novel Radio Admission Control Scheme for Multiclass Services in LTE Systems
Manli Qian, Yi Huang, Jinglin Shi, Yao Yuan, Lin Tian
(Chinese Academy of Sciences, China)
Eryk Dutkiewicz (Macquarie University, Australia)

Mode Selection-Based Channel Feedback Reduction Scheme for Opportunistic Scheduling in OFDMA Systems
Soomin Ko, Seungmin Lee, Hojoong Kwon, Byeong Gi Lee
(Seoul National University, Korea)

Mitigating Performance Anomaly of TFRC in Multi-Rate IEEE 802.11 Wireless LANs
Kenichi Kashibuchi, Yoshiaki Nemoto, Nei Kato (Tohoku University, Japan)

An Adaptive Rate Assignment Strategy for CDMA2000 IS-856 Subject to RAB Delay
Kaveh Moezzi, Seyed Kian Jalaleddini, Amir Aghdam
(Concordia University, Canada)
Mehdi Alasti (Global Technology Associates)
Vahid Tarokh (Harvard University, USA)

Rate Adaptation with NAK-Aided Loss Differentiation in 802.11 Wireless Networks
Anne N. Ngugi, Yuanzhu Peter Chen
(Memorial University of Newfoundland, Canada)
Qing Li (Southwestern University of Finance and Economics, Chengdu, China)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Coral Ballroom 1

WNS-05: Resource Management

Chair: Zhifeng Tao (Mitsubishi Electric Research Laboratories, USA)

On Scheduling and Power Control in Multi-Cell Coordinated Clusters
Norbert Reider (Budapest University of Technology and Economics, Hungary)
Andras Racz, Gabor Fodor (Ericsson Research, Sweden)

Optimum Power Allocation against Information Leakage in Wireless Network
Shafi Bashar, Zhi Ding (University of California, Davis, USA)

Near Optimum Power Control UnderFairness Constraints in CoMP Systems
Gabor Fodor (Ericsson Research, Sweden)
Mikael Johansson, Pablo Soldati (Royal Institute of Technology, Sweden)

Maintaining Utility Fairness Using Weighting Factors in Wireless Networks
Mehri Mehrjoo, Mohamad Khattar Awad (University Of Waterloo, Canada)
Mehrdad Dianati (University of Surrey, UK)
Xeumin (Sherman) Shen (University of Waterloo, Canada)

Utility-Based Resource Allocation for Layer-Encoded Multimedia Multicasting over Wireless Relay Networks
Ya-Ju Yu, Ai-Chun Pang, Yan-Chi Fang, Pang-Feng Liu
(National Taiwan University, Taiwan)

MDP-based CAC for Two-Dimension Spreading VSF-OFCDM in 4G Cellular Communications
Ben-Jye Chang (National Yunlin University of Science and Technology, Taiwan)
Ying-Hsin Liang (Nankai University of Technology, Taiwan)
Chih-Hsien Wu, Yung-Fa Huang (Chaoyang University of Technology, Taiwan)
Ren-Hung Hwang (National Chung-Cheng University, Taiwan)

Tuesday, 1 December 2009 • 16:30 – 18:30
Location: Coral Ballroom 2

WNS-06: Mobility Modeling and Mobility Effect

Chair: Maode Ma (Nanyang Technological University, Singapore)

Stochastic Properties and Application of City Section Mobility Model
Md Shohrab Hossain, Mohammed Atiquzzaman (University of Oklahoma, USA)

Optimal Pattern in Epidemic Networks
Supriya Nirkhiwale, Caterina Scoglio (Kansas State University, USA)

Connectivity Analysis of Mobile Linear Networks with Delay Constraint
Jingxian Wu (University of Arkansas, USA)

Analyzing the Effect of Node Mobility in Clustered Wireless Ad Hoc Networks
Yanying Gu, R. Venkatesha Prasad, Ignas Niemegeers
(Delft University of Technology, Netherlands)

An Efficient Multicast Search Scheme under 2D Markov Walk Model
Yao Yuan, Yucheng Zhang, Li Hu, Yi Huang, Manli Qian
(Chinese Academy of Sciences, China)
Jihua Zhou (Chongqing Jinmei Communication Co., Ltd, China)
Jinglin Shi (Chinese Academy of Sciences, China)

Analytical Modelling of the GC-Based Handover Scheme with Heavy-Tailed Call Holding Times
Xiaolong Jin, Geyong Min, Jianmin Jiang (University of Bradford, UK)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Honolulu Suite 1

AHSN-10: Routing & Resource Management in WMNs

Chairs: Dharma Agrawal (University of Cincinnati, USA)
Brahim Bensaou (Hong Kong University of Science and Technology, Hong Kong)

Diffusion based Distributed Internet Gateway Load Balancing in a Wireless Mesh Network
Bing He (University of Cincinnati, USA)
Dongmei Sun (Beijing Jiaotong University, China)
Dharma P. Agrawal (University of Cincinnati, USA)

Bandwidth Allocation for Bi-Directional End-to-End Paths in a Last-Mile Wireless Mesh Network
Ka-Lok Hung, Brahim Bensaou
(Hong Kong University of Science and Technology, Hong Kong)

Channel Assignment Exploiting Partially Overlapping Channels for Wireless Mesh Networks
Yuting Liu, R. Venkatesan, Cheng Li (Memorial University, Canada)

User Density Sensitive P2P Streaming in Wireless Mesh Networks
Jigang Wen (Hunan University, China)
Jiannong Cao (Hong Kong Polytechnic University, Hong Kong)
Kun Xie, Renfa Li (Hunan University, China)

Interconnecting Wireless Sensor and Wireless Mesh Networks: Challenges and Strategies
Stefan Bouckaert, Eli De Poorter, Pieter De Mil, Ingrid Moerman, Piet Demeester (Ghent University, Belgium)

Graph-based Approach for Enhancing Capacity and Fairness in Wireless Mesh Networks
Salim Nahle, Naceur Malouch (University of Paris 6, France)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Honolulu Suite 2

AHSN-11: Multi-hop Wireless Networks

Chairs: John M. Cioffi (Stanford University, USA)
Mohammad Hoque (University of Alabama, USA)

Phase Transition Width of Connectivity of Wireless Multi-hop Networks in Shadowing Environment
Xiaoyuan Ta, Guoqiang Mao, Brian D. O. Anderson
(Australian National University, Australia)

Utility-Based Scheduling with Non-Deterministic Fading Channels in Wireless Multi-Hop Networks
Zheng Liu (Tianjin University, China)
Maode Ma (Nanyang Technological University, Singapore)
Jufeng Dai (Tianjin University, China)

Cooperative Strategy by Stackelberg Games under Energy Constraint in Multi-hop Relay Networks
Hyukjoon Kwon, HyungJune Lee, John M. Cioffi (Stanford University, USA)

Selecting a Spatially Efficient Cooperative Relay
Nikolaj Marchenko, Evsen Yanmaz, Helmut Adam, Christian Bettstetter (University of Klagenfurt, Austria)

Multiple Radio Channel Assignement Utilizing Partially Overlapped Channels
Mohammad Hoque, Xiaoyan Hong, Farhana Afroz (University of Alabama, USA)

Capacity of Wireless Multi-hop Networks Using Physical Carrier Sense and Transmit Power Control
Eren Gurses, Raouf Boutaba (University of Waterloo, Canada)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Honolulu Suite 3

AHSN-12: Mobile Ad Hoc Networks

Chair: Hossam Hassanein (Queen's University, Canada)

Delay-Guaranteed Multicast Routing in Multi-Rate MANETs
Yu-Hsun Chen, Gen-Huey Chen (National Taiwan University, Taiwan)
Chia-Cheng Hu (Naval Academy, Taiwan)
Eric Hsiao-Kuang Wu (National Central University, Taiwan)

An Epidemic P2P Content Search Mechanism for Intermittently Connected Mobile Ad hoc Networks
Yaozhou Ma, Abbas Jamalipour (University of Sydney, Australia)

Efficient Multipoint P2P File Sharing in MANETs
Afzal Mawji, Hossam Hassanein (Queen's University, Canada)

Self-Pruning Broadcasting for Mobile Ad Hoc Networks
Wilson Woon, Kwan L. Yeung (University of Hong Kong, Hong Kong)

An Analytical Model of Routing, Misbehavior, and Countermeasures in Mobile Ad Hoc Networks
André König, Daniel Seither, Ralf Steinmetz, Matthias Hollick
(Technische Universitaet Darmstadt, Germany)

Distributed Hierarchical Key Management Scheme in Mobile Ad Hoc Networks
Fei Wang, F. Richard Yu (Carleton University, Canada)
Anand Srinivasan (EION Inc., Canada)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Coral Ballroom Lounge

AHSN-27: Topics in Ad Hoc Sensor and Mesh Networking IV (Poster)

Chairs: Dario Pompili (Rutgers University, USA)
Boleslaw K. Szymanski (Rensselaer Polytechnic Institute, USA)

Movement Recognition using Body Area Networks
John Paul Varkey, Dario Pompili (Rutgers University, USA)

Impact of Social Networks in Delay Tolerant Routing
Eyuphan Bulut, Zijian Wang, Boleslaw K. Szymanski
(Rensselaer Polytechnic Institute, USA)

Iterative Limited Feedback Beamforming for MIMO Ad Hoc Networks
Jong-Ho Lee (Kongju National University, Korea)
Geoffrey Ye Li (Georgia Institute of Technology, USA)

Human Behavior and Challenges of Anonymizing WLAN Traces
Udayan Kumar, Ahmed Helmy (University of Florida, USA)

Analysis of Fundamental Limits for Partial Connectivity in Wireless Networks
Andras Farago (University of Texas, Dallas, USA)

Incremental Routing and Scheduling in Wireless Grids
Abdullah-Al Mahmood, Ehab S. Elmallah (University of Alberta, Canada)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Iolani Suite 5 – 6

CISS-04: Attack Detection

Chair: Martine Bellaïche (École Polytechnique, Canada)

Collaborative Anomaly Detection for Structured P2P Networks
Wei Wang, Hong Man, Fangming He (Stevens Institute of Technology, USA)

Detecting Identity Spoofs in 802.11e Wireless Networks
Gayathri Chandrasekaran, John-Austen Deymious, Vinod Ganapathy, Marco Gruteser, Wade Trappe (Rutgers University, USA)

Periodic Behavior in Botnet Command and Control Channels Traffic
Basil AsSadhan, José M. F. Moura (Carnegie Mellon University, USA)
David Lapsley (BBN Technologies, USA)

An Effective Early Warning Scheme against Pollution Dissemination for BitTorrent
An'an Luo, Chuang Lin, Yixin Jiang (Tsinghua University, China)
Xiaowen Chu (Hongkong Baptist University, Hong Kong)
Hongkun Yang (Tsinghua University, China)

SYN Flooding Attack Detection Based on Entropy Computing
Martine Bellaïche (École Polytechnique, Canada)
Jean-Charles Gregoire (INRS, Canada)

Security Analysis for Online Banking System Using Hierarchical Stochastic Game Nets Model
Yuanzhuo Wang, Chuang Lin, Kun Meng, Hongkun Yang
(Tsinghua University, China)
Junjie Lv (Beijing Technology and Business University, China)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Kahili Suite 1

CQPRM-04: Quality and Performance in Peer-to-Peer Networks

Chair: Luigi Atzori (University of Cagliari, Italy)

Selfishness-Aware Data-driven Overlay Network
Miao Wang, Yujun Zhang, Guojie Li (Chinese Academy of Sciences, China)

Comparison of Piece-based File Sharing Schemes over a Peer-to-Peer Network in a Heterogeneous Network Environment
Jenq-Shiou Leu, Ming-Hung Huang
(National Taiwan University of Science and Technology, Taiwan)

Improving Deployability of Peer-Assisted CDN Platform with Incentive
Tatsuya Mori, Noriaki Kamiyama, Shigeaki Harada, Haruhisa Hasegawa, Ryoichi Kawahara (NTT, Japan)

Market-Based Cooperative Resource Allocation for Overlay Networks
Ryota Egashira, Ariffin Datuk Yahaya, Tatsuya Suda
(University of California, Irvine, USA)

An Evolutionary Game Approach to P2P Video Streaming
Luigi Chisci, Francesco Papi, Tommaso Pecorella, Romano Fantacci
(University of Florence, Italy)

Group-Based Search in Unstructured Peer-to-Peer Networks
Kun Zhao (Beijing Institute of Technology / Northwest University for Nationalities, China)
Niu Zhendong, Zhao Yumin (Beijing Institute of Technology, China)
Yang Jun (Northwest University for Nationalities, China)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Sea Pearl Suite 5 – 6

CSS-04: Software and Protocol Technologies

Chair: Joel J. C. P. Rodrigues (University of Beira Interior, Portugal)

A Framework for Developing User-Centric Services for Communicaiton End-Points
Krishna Kishore Dhara, Tim I. Ross, Venkatesh Krishnaswamy
(Avaya Labs Research, USA)

Parallel Multi Agent Middleware for Dynamic Service Reconstruction in Smart Space
Yoonsik Uhm, Zion Hwang, Minsoo Lee (Chung-Ang University, Korea)
Yong Kim, Sehyun Park (Chung-Ang University, Korea)

Cognitive Information Service: Basic Principles and Implementation of A Cognitive Inter-Node Protocol Optimization Scheme
Dzmitry Kliazovich, Fabrizio Granelli (University of Trento, Italy)
Nelson L. S. de Fonseca (State University of Campinas, Brazil)
Radoslaw Piesiewicz (Create-Net, Italy)

Bundle Protocol (BP) over Licklider Transmission Protocol (LTP) for Cislunar Communications
Ruhai Wang, Tiaotiao Wang, Xuan Wu (Lamar University, USA)

A Preventive Rerouting Scheme for Avoiding Voids in Wireless Sensor Networks
Mohamed Aissani, Abdelhamid Mellouk (LiSSi, France)
Nadjib Badache
(University of Sciences and Technology Houari Boumediane, Algeria)
Mohamed Djebbar (EMP School, Algeria)

A Distributed Bandwidth Partitioning Scheme for Concurrent Network-Coded Multicast Sessions
Niveditha Sundaram, Parmesh Ramanathan (University of Wisconsin, USA)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Sea Pearl Suite 3 – 4

CTS-04: Network Coding and Cooperation

Chair: Dario Fertonani (Arizona State University, USA)

Convolutional Codes for Network-Error Correction
Prasad Krishnan, B. Sundar Rajan (Indian Institute of Science, India)

Random Linear Network Coding for Time-Division Duplexing: Field Size Considerations
Daniel E. Lucani, Muriel Medard (Massachusetts Institute of Technology, USA)
Milica Stojanovic (Northeastern University, USA)

Achieving Lower Distortion with Lattice Strategies in Multicast Wireless Networks
Ao Zhan, Chen He, Lingge Jiang (Shanghai Jiaotong University, China)

Joint Scheduling and Instantaneously Decodable Network Coding
Danail Traskov (Technical University of Munich, Germany)
Muriel Medard (Massachusetts Institute of Technology, USA)
Parastoo Sadeghi (Australian National University, Australia)
Ralf Koetter (University of Illinois, USA)

Network Coded Cooperative Diversity with Multiple Sources
Lei Xiao, Daniel Costello, Thomas Fuja (University of Notre Dame, USA)

Cooperative Uplink of Two Mobile Stations with Network Coding based on the WiMax LDPC Code
Lena Chebli, Christoph Hausl, Georg Zeitler, Ralf Koetter
(Technical University of Munich, Germany)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Coral Ballroom Lounge

CTS-15: Topics in Communications Theory II (Poster)

Chair: Eirik Rosnes (University of Bergen, Norway)

New Bounds on the Total-Squared-Correlation of Quaternary Signature Sets and Optimal Designs
Ming Li, Stella N. Batalama, Dimitris Pados
(State University of New York, Buffalo, USA)
John Matyjas (Air Force Research Laboratory, USA)

On the Secondary Capacity of the Communication Protocols
Petar Popovski (Aalborg University, Denmark)
Zoran Utkovski (University of Ulm, Germany)

On the Performance of Bit-Synchronizers in an ISI Channel and a Related Lower Bound
Amin Emad, Norman Beaulieu (University of Alberta, Canada)

Minimum-length Scheduling for Multicast Traffic under Channel Uncertainty
Anna Pantelidou (University of Oulu, Finland)
Anthony Ephremides (University of Maryland, College Park, USA)

Analysis of Delay Constrained Communications over OFDM Systems
Beatriz Soret, M. Carmen Aguayo-Torres, J. Tomás Entrambasaguas
(University of Málaga, Spain)

Energy Efficiency of Fixed-Rate Wireless Transmissions under Queueing Constraints and Channel Uncertainty
Deli Qiao, Mustafa Cenk Gursoy, Senem Velipasalar
(University of Nebraska-Lincoln, USA)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Lehua Suite

NGNI-04: Routing & Switching I

Chair: Nasir Ghani (University of New Mexico, USA)

Impact of Asymmetric Routing on Statistical Traffic Classification
Manuel Crotti, Francesco Gringoli, Luca Salgarelli (University of Brescia, Italy)

Automatic Flow Distribution and Management in Heterogeneous Networks
Yi Sun, Yuming Ge, Shan Lu (Institute of Computing Technology, China)
Eryk Dutkiewicz (Macquarie University, Australia)
Jihua Zhou (Chongqing Jinmei Communication Ltd, China)

Robust Traffic Engineering Using Multi-Topology Routing
Xiong Wang, Sheng Wang, Shizhong Xu, Le Min Li
(University of Electronic Science and Technology of China, China)

How Bad is Single-Path Routing
Meng Wang (Cornell University, USA)
Chee Wei Tan (California Institute of Technology, USA)
Ao Tang (Cornell University, USA)
Steven Low (California Institute of Technology, USA)

Multi-Commodity Flow Traffic Engineering with Hybrid MPLS/OSPF Routing
Mingui Zhang, Bin Liu (Tsinghua University, China)
Beichuan Zhang (University of Arizona, USA)

Novel Topological Framework for Adaptive Routing
Alexander Stepanenko (Aston University, UK)
Constantinos Constantinou (University of Birmingham, UK)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Iolani Suite 1 – 2

ONS-04: Optical Fiber Transmission and Monitoring

Chair: Alberto Bononi (Università di Parma, Italy)

Insertion of 100Gb/s Coherent PDM-QPSK Channels over Legacy Optical Networks Relying on Low Chromatic Dispersion Fibres
Oriol Bertran-Pardo (Bell Labs, Alcatel-Lucent / Telecom Paristech, France)
Jérémie Renaudier, Gabriel Charlet, Patrice Tran, Haïk Mardoyan,
Massimiliano Salsi (Bell Labs, Alcatel-Lucent, France)
Marco Bertolini (Università di Parma, Italy)
Sébastien Bigo (Bell Labs, Alcatel-Lucent, France)

Experimental Investigation of Real Time 10Gbit/s MLSE Equalizer Using 4-states and 16-states Viterbi Detector
Daniel Fritzsche (European Center for Information and Communication Technologies, Germany)
Dirk Breuer (Deutsche Telekom AG, Laboratories, Germany)
Lars Schürer, Armin Ehrhardt (Deutsche Telekom Netzproduktion GmbH, Zentrum TE, Germany)
Hamdi Oeruen (CoreOptics GmbH, Germany)
Christian Schäffer (University of the Federal Armed Forces, Germany)

Diversity Combining for Asymmetrically Clipped Optical OFDM in IM/DD Channels
Liang Chen, Brian Krongold, Jamie Evans (University of Melbourne, Australia)

Evaluation of the Impact of Filter Shape on the Performance of SOA-assisted SS-WDM Systems Using Parallelized Multicanonical Monte Carlo
Amirhossein Ghazisaeidi, Francesco Vacondio, Leslie Rusch
(Laval University, Canada)

On Analyzing the Capacity of WDM PONs
Jingjing Zhang, Nirwan Ansari (New Jersey Institute of Technology, USA)

Experimental Validation of Periodic Codes for PON Monitoring
Mohammad Mansour Rad (Laval University, Canada)
Habib Fathallah (King Saud University, Saudi Arabia)
Sophie LaRochelle, Leslie Rusch (Laval University, Canada)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Kahili Suite 2

SAC(CN)-01: Consumer Networks and Applications

Chair: Naohisa Ohta (Keio University, Japan)

An Efficient Storage Utilization for High-Quality Content Distribution in a PVR-based Community
Sungwook Chung (University of Florida, USA)
Eunsam Kim (Hongik University, Korea)
Jonathan Liu (University of Florida, USA)

Design and Evaluation of a Wireless Body Sensor System for Smart Home Health Monitoring
Chao Chen, Carlos Pomalaza-Ráez (Indiana University-Purdue University, USA)

Minimum-cost Implementation of Traffic Information System over Wireless Mesh Network
Kaveh Shafiee, Victor C. M. Leung (University of British Columbia, Canada)

Time-Critical Data Dissemination in Cooperative Peer-to-Peer Systems
Chi-Jen Wu (National Taiwan University, Taiwan)
Cheng-Ying Li, Kai-Hsiang Yang, Jan-Ming Ho (Academia Sinica, Taiwan)
Ming-Syan Chen (National Taiwan University, Taiwan)

A Measurement Study of External Links of YouTube
Kunfeng Lai, Dan Wang (Hong Kong Polytechnic University, Hong Kong)

Real-World VANET Security Protocol Performance
Jason S. Haas, Yih-Chun Hu (University of Illinois, Urbana-Champaign, USA)
Ken P. Laberteaux (Toyota Research Institute, USA)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Sea Pearl Suite 1 – 2

SAC(CRN)-04: Dynamic Spectrum Access

Chair: Subir Biswas (Michigan State University, USA)

Analysis of Dynamic Spectrum Access with Heterogeneous Networks: Benefits of Channel Packing Scheme
Ling Luo, Sumit Roy (University of Washington, USA)

Joint Dynamics of Spectrum Allocation and User Behavior in Spectrum Markets
Yuki Saito, Koji Yamamoto, Hidekazu Murata, Susumu Yoshida
(Kyoto University, Japan)

Model-Based Opportunistic Channel Access in Dynamic Spectrum Access Networks
Manuj Sharma, Anirudha Sahoo (Indian Institute of Technology, India)
K.D. Nayak (DRDO, India)

Optimal Channel Access for TCP Performance Improvement in Cognitive Radio Networks: A Cross-Layer Design Approach
Changqing Luo (Beijing University of Posts & Telecommunications, China)
F. Richard Yu (Carleton University, Canada)
Hong Ji (Beijing University of Posts & Telecommunications, China)
Victor C. M. Leung (University of British Columbia, Canada)

Cognitive MIMO Radio: Incorporating Dynamic Spectrum Access in Multiuser MIMO Network
Harpreet Dhillon, R. Michael Buehrer
(Virginia Polytechnic Institute / State University, USA)

Effect of Dynamic Spectrum Access on Transport Control Protocol Performance
Yogesh Kondareddy, Prathima Agrawal (Auburn University, USA)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Iolani Suite 3 – 4

SPC-04: Channel Estimation, Modeling and Equalization III

Chairs: Kazunori Hayashi (Kyoto University, Japan)
Hung Nguyen (The Aerospace Corporation, USA)

New Convolutive-Error-Measure and Minimum Total-Model-Order Determination Algorithm for Equalization in Communications
Shih Yu Chang (National Tsing Hua University of Taiwan, Taiwan)
Hsiao-Chun Wu (Louisiana State University, USA)

Training Signal Design for Discriminatory Channel Estimation
Tsung-Hui Chang, Y. -W. Peter Hong, Chong-Yung Chi
(National Tsing Hua University, Taiwan)

MMSE Relaying and Power Allocation over Frequency-Selective Rayleigh Fading Channels
Tung T. Pham, Ha H. Nguyen, Duy H. N. Nguyen
(University of Saskatchewan, Canada)
Hoang D. Tuan (University of New South Wales, Australia)

MSE Bounds for Phase Estimation in Presence of Recursive Nuisance Parameters
Xiaojing Huang, Y. Jay Guo (Commonwealth Scientific and Industrial Research Organization ICT Centre, Australia)

Semi-Blind Channel Estimation for Space-Time Coded Amplify-and-Forward Relay Networks
Yang Lu (National University of Singapore, Singapore)
Feifei Gao (Jacobs University, Bremen, Germany)
Puthusserypady Sadasivan (National University of Singapore, Singapore)
Arumugam Nallanathan (King's College London, UK)

An Iterative Equalization Method for Nonirreducible MIMO FIR Channels
Yong Xiang, Sze Kui Ng (Deakin University, Australia)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: South Pacific Ballroom 1

WCS-13: Cooperative Communication: Signal Processing

Chair: Salama Said Ikki (University of Waterloo, Canada)

Permutation Optimization in QRD Based Multi-relay Systems
Hang Long, Kan Zheng, Meiying Wei, Fangxiang Wang, Wenbo Wang
(Beijing University of Posts and Telecommunications, China)

Preamble-Based Channel Estimation for Amplify-and-Forward OFDM Relay Networks
Bin Jiang, Haiming Wang, Xiqi Gao, Shi Jin (Southeast University, China)
Kai-Kit Wong (University College London, UK)

Optimization of Power Constrained Multi-Source Uplink Relay Networks
Yi Zheng, Steven Blostein (Queen's University, Canada)

A New Coupling Channel Estimator for Cross-Talk Cancellation at Wireless Relay Stations
Jun Ma, Geoffrey Ye Li (Georgia Tech, USA)
Jinyun Zhang (Mitsubishi Electric Research Laboratories, USA)
Toshiyuki Kuze, Hiroki Iura (Mitsubishi Electric Corporation, Japan)

DMT Analysis of Asynchronous OFDM Decode-and-Forward Cooperative Networks
Mehdi Torbatian, Mohamed Oussama Damen
(University of Waterloo, Canada)

Joint MMSE Transceiver Design for Closed-Loop Non-Regenerative MIMO Relaying Systems
Chang-Ick Song, Kyoung-Jae Lee, Inkyu Lee (Korea University, Korea)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: South Pacific Ballroom 2

WCS-14: Multiuser MIMO

Chair: Xianbin Wang (University of Western Ontario, Canada)

Channel Vector Quantization for Multiuser MIMO Systems Aiming at Maximum Sum Rate
Guido Dietl, Olivier Labrèche (DOCOMO Euro-Labs, Germany)
Wolfgang Utschick (Munich University of Technology, Germany)

User Pairing for Multiuser SC-FDMA Transmission over Virtual MIMO ISI Channels
Michael A. Ruder, Uyen Ly Dang, Wolfgang H. Gerstacker
(University of Erlangen-Nuremberg, Germany)

MMSE-Based User Selection Algorithms for Multiuser Linear Precoding
Ngoc-Dung Dao, Yong Sun (Toshiba Research Europe Limited, UK)

Transmission Strategies and Sum Rate Maximization in Multi-User TDD Systems
Umer Salim, Dirk Slock (Eurecom, France)

Downlink Transmission Optimization and Statistical Feedback Strategies in a Multi-User IEEE 802.16m System
Christos Papathanasiou (University of Thessaly, Greece)
Nikos Dimitriou (National & Kapodistrian University of Athens, Greece)
Leandros Tassiulas (University of Thessaly, Greece)

Waterfilling Schemes for Zero-Forcing Coordinated Base Station Transmission
Ana Garcia Armada, Matilde Sánchez-Fernández
(Universidad Carlos III de Madrid, Spain)
Roberto Corvaja (University of Padova, Italy)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: South Pacific Ballroom 3

WCS-15: Cross-layer Design

Chair: Amir Hamed Mohsenian Rad
(University of British Columbia, Canada)

Cross-layer Congestion Control and Scheduling in Multi-hop OFDMA Wireless Networks
Pan Zhou, Guowang Miao, Benny Bing (Georgia Institute of Technology, USA)

Buffer State Information: Two-Level Water-Filling for Fixed Rate Applications
Vinay Majjigi, Daniel O'Neill, John M. Cioffi (Stanford University, USA)

Reducing Signaling and Respecting Time-Scales in Cross-Layer Protocols Design for Wireless Networks
Pablo Soldati, Mikael Johansson (Royal Institute of Technology, Sweden)

Cross-layer Optimization of Unequal Protected Layered Video over Hierarchical Modulation
David Pradas (Universitat Autonoma de Barcelona, Spain)
Amine Bouabdallah, Jerome Lacan
(Institut Superieur de l'Aeronautique et de l'Espace, France)
M. Angeles Vazquez-Castro (Universidad Autonoma de Barcelona, Spain)
Michel Bousquet (Institut Superieur de l'Aeronautique et de l'Espace, France)

Optimal Multiplexed Hierarchical Modulation for Unequal Error Protection of Progressive Bit Streams
Seok-Ho Chang (University of California, San Diego, USA)
Minjoong Rim (Dongguk University, Korea)
Pamela Cosman, Laurence Milstein (University of California, San Diego, USA)

Downlink Mobile OFDMA Resource Allocation with Minimum User Rate Requests
Stelios Stefanatos (Institute of Accelerating Systems and Applications, Greece)
Christos Papathanasiou (University of Thessaly, Greece)
Nikos Dimitriou (Institute of Accelerating Systems and Applications, Greece)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: South Pacific Ballroom 4

WCS-16: Performance Analysis

Chair: Yu Cheng (Illinois Institute of Technology, USA)

BER Performance Analysis of Multiuser Diversity with Antenna Selection in MRC MIMO Systems
Mohammad Torabi, David Haccoun (Ecole Polytechnique de Montreal, Canada)
Wessam Ajib (University of Quebec, Montreal, Canada)

Outage and Diversity Analysis of Opportunistic Beamforming over Rayleigh Channels
Serdar Ozyurt, Murat Torlak (University of Texas, Dallas, USA)

On the Performance of Cascaded Generalized K Fading Channels
Imene Trigui (INRS - EMT, Canada)
Amine Laourine (Cornell University, USA)
Sofiene Affes, Alex Stephenne (INRS - EMT, Canada)

Outage-based Throughput in Wireless Packet Networks
Pedro Pinto, Moe Z. Win (Massachusetts Institute of Technology, USA)

Adaptive M-PSK Communications in the Absence of Channel Gain Estimation
Athanasios S. Lioumpas, George K. Karagiannidis
(Aristotle University of Thessaloniki, Greece)
Diomidis S. Michalopoulos (University of British Columbia, Canada)

Achieving Close-Capacity Performance with Simple Concatenation Scheme on Multiple-Antenna Channels
Nghi H. Tran, Tho Le-Ngoc (McGill University, Canada)
Tadashi Matsumoto (CWC - Oulu, Finland)
Ha H. Nguyen (University of Saskatchewan, Canada)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Coral Ballroom Lounge

WCS-40: Topics in Wireless Communications II (Poster)

Chair: Neelesh B. Mehta (Indian Institute of Science, India)

Linear Equalizers for Quasi-synchronous Block Spreading CDMA Systems
Mohammud Z. Bocus (University of Bristol, UK)
Yue Wang, Justin P. Coon (Toshiba Research Europe Limited, UK)

Convergence Analysis of Turbo Equalization in ST Block-Coded MIMO Systems
Vijay Bhargava (University of British Columbia, Canada)

An Accurate Model for Interference from Spatially Distributed Shadowed Users in CDMA Uplinks
Neelesh B. Mehta, Sarabjot Singh (Indian Institute of Technology, India)
Andreas F. Molisch (University of Southern California, USA)

Novel Reliability-Based Hybrid ARQ Technique
Ahmad Gomaa (University of Texas, Dallas, USA)
Mohammed Nafie, Mohamed Abdallah (Cairo University, Egypt)

Pilot Power Protocol for Autonomous Infrastructure based Multihop Cellular Networks
Mark DeFaria, Elvino S. Sousa (University of Toronto, Canada)

Performance Analysis and Enhancement of Cooperative Retransmission Strategy for Delay-Sensitive Real-Time Services
Wei Song (University of New Brunswick, Canada)
Weihua Zhuang (University of Waterloo, Canada)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Coral Ballroom 1

WNS-07: Scheduling

Chair: Rose Qingyang Hu (Mississippi State University, USA)

A Low-Complexity Beamforming-Based Scheduling for Downlink OFDMA/SDMA Systems with Multimedia Traffic
Wen-Ching Chung, Li-Chun Wang, Chung-Ju Chang
(National Chiao Tung University, Taiwan)

A Simple Greedy Algorithm for Link Scheduling with the Physical Interference Model
Dejun Yang, Xi Fang, Nan Li, Guoliang Xue (Arizona State University, USA)

Joint Link Scheduling and Routing for Directional-Antenna Based 60 GHz Wireless Mesh Networks
Xi Zhang, Hang Su (Texas A&M University, USA)

Secondary User Friendly TDMA Scheduling in Opportunistic Spectrum Access Networks
Hang Su, Xi Zhang (Texas A&M University, USA)

Long Term Fair Scheduling in a Cognitive Wireless Network with Spectrum Underlay
Bin Wang, Dongmei Zhao (McMaster University, Canada)

Localized Scheduling for Practical and Optimal Capacity Utilization in Large Wireless Networks
Yi Xu, Wenye Wang (North Carolina State University, USA)

Wednesday, 2 December 2009 • 10:15 – 12:15
Location: Coral Ballroom 2

WNS-08: Testbeds and Experimental Measurements

Chair: Rosario G. Garroppo (University of Pisa, Italy)

QOMB: A Wireless Network Emulation Testbed
Razvan Beuran
(National Institute of Information and Communications Technology, Japan)
Lan Tien Nguyen
(Japan Advanced Institute of Science and Technology, Japan)
Toshiyuki Miyachi, Junya Nakata
(National Institute of Information and Communications Technology, Japan)
Ken-ichi Chinen, Yasuo Tan, Yoichi Shinoda
(Japan Advanced Institute of Science and Technology, Japan)

Rapidly-Deployable Mesh Network Testbed
Michael Souryal, Andreas Wapf, Nader Moayeri
(National Institute of Standards and Technology, USA)

Implication of MAC Frame Aggregation on Empirical Wireless Experimentation
Gautam Bhanage (Rutgers University, USA)
Rajesh Mahindra (NEC Labs America, USA)
Ivan Seskar, Dipankar Raychaudhuri (Rutgers University, USA)

Multicast Mobility in Heterogeneous Technologies: Experimental Validation
Susana Sargento (Universidade de Aveiro, Portugal)
David Wagner (Fraunhofer FOKUS Institute, Germany)
José Rocha (Universidade de Aveiro, Portugal)
Fabio Mitrano (Università di Roma "La Sapienza", Italy)
Janusz Gozdecki (AGH University of Science Technology, Poland)
Jens Mödeker (Fraunhofer FOKUS Institute, Germany)

Impact of TCP ACK Losses on TCP Fairness in Wireless Mesh Networks
Jae-Yong Yoo, JongWon Kim
(Gwangju Institute of Science & Technology, Korea)

An Autonomous Cognitive Access Point for Wi-Fi Hotspots
Bheemarjuna Reddy Tamma, B. S. Manoj, Ramesh Rao
(University of California, San Diego, USA)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Honolulu Suite 1

AHSN-13: Modeling of Ad Hoc Networks

Chair: Weihua Zhuang (University of Waterloo, Canada)

Modeling the Throughput and Delay in Wireless Multihop Ad Hoc Networks
Ahmad Ali Abdullah, Fayez Gebali, Lin Cai (University of Victoria, Canada)

Modeling IEEE 802.11 DCF using Parallel Space – Time Markov Chain: Multi-Hop Ad Hoc Networks
Kaveh Ghaboosi, Matti Latva-aho (University of Oulu, Finland)
Yang Xiao (University of Alabama, USA)
Babak Hossein H. Khalaj (Sharif University of Technology, Iran)

On Reducing Blocking Probability in Cooperative Ad Hoc Networks
Ayda Basyouni, Walaa Hamouda, Amr Youssef (Concordia University, Canada)

Modeling and Analysis for Emergency Messaging Delay in Vehicular Ad Hoc Networks
Khadige Abboud, Weihua Zhuang (University of Waterloo, Canada)

On Hopping Strategies for Autonomous Wireless Networks
Pedro H. J. Nardelli, Giuseppe T. F. de Abreu (University of Oulu, Finland)

Optimality Bounds of the Connectivity of Adhoc Networks with Beamforming Antennas
Moritz Kiese, Christian Hartmann, Robert Vilzmann
(Technische Universitaet Muenchen, Germany)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Honolulu Suite 2

AHSN-14: Vehicular Ad Hoc Networks

Chair: Xeumin (Sherman) Shen (University of Waterloo, Canada)

Periodic Broadcast Type Timing Reservation MAC Protocol for Inter-Vehicle Communications
Kenji Ito, Noriyoshi Suzuki, Satoshi Makido, Hiroaki Hayashi
(Toyota Central R&D Labs., Inc., Japan)

Information Dissemination Control for Cooperative Active Safety Applications in Vehicular Ad Hoc Networks
Ching-Ling Huang, Yaser Pourmohammadi-Fallah, Raja Sengupta
(University of California, Berkeley, USA)
Hariharan Krishnan (General Motors, USA)

MAAC: Message Authentication Acceleration Protocol for Vehicular Ad Hoc Networks
Albert Wasef, Xeumin (Sherman) Shen (University of Waterloo, Canada)

Mobility-based Clustering in VANETs using Affinity Propagation
Christine Shea, Behnam Hassanabadi, Shahrokh Valaee
(University of Toronto, Canada)

Position-based Directional Vehicular Routing
Daxin Tian, Kaveh Shafiee, Victor C. M. Leung
(University of British Columbia, Canada)

Adaptive Message Routing with QoS support in Vehicular Ad Hoc Networks
Hanan Saleet (University of Waterloo, Canada)
Rami Langar (UPMC - Paris Universitas, France)
Otman Basir, Raouf Boutaba (University of Waterloo, Canada)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Honolulu Suite 3

AHSN-15: Medium Access Control

Chairs: Vojislav B. Misic (Ryerson University, Canada)
J. J. Garcia-Luna-Aceves (University of California, Santa Cruz, USA)

CoRe-MAC: A MAC-Protocol for Cooperative Relaying in Wireless Networks
Helmut Adam, Wilfried Elmenreich, Christian Bettstetter
(University of Klagenfurt, Austria)
Sidi-Mohammed Senouci (Orange Labs, France)

Trading Delay for Fairness in MAC Design for Cognitive Personal Area Networks
Jelena Misic, Vojislav Misic (Ryerson University, Canada)

Collision-Free Asynchronous Multi-Channel Access in Ad Hoc Networks
Duy Nguyen, J. J. Garcia-Luna-Aceves, Katia Obraczka
(University of California, Santa Cruz, USA)

Feedback based Real-time MAC (RT-MAC) Protocol for Wireless Sensor Networks
Brajendra Kumar Singh, Kemal Ertugrul Tepe (University of Windsor, Canada)

Adaptive Probabilistic Medium Access in MPR-Capable Ad Hoc Wireless Networks
Majid Ghanbarinejad, Christian Schlegel, Pawel Gburzynski
(University of Alberta, Canada)

Continuous Contention-Assisted Transmission MAC Protocol for Wireless Ad Hoc Network
Dinh Chi Hieu, Shimamoto Shigeru (Waseda University, Japan)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Iolani Suite 5 – 6

CISS-05: Cryptographic Algorithms and Protocols

Chair: Nei Kato (Tohoku University, Japan)

Secret-sharing based Secure Communication Protocols for Passive RFIDs
Harsh Kapoor, Dijiang Huang (Arizona State University, USA)

ASIC: Aggregate Signatures and Certificates Verification Scheme for Vehicular Networks
Albert Wasef, Xeumin (Sherman) Shen (University of Waterloo, Canada)

A Group-Based Key Management Protocol for Mobile Ad Hoc Networks
Qing Chen (Tohoku University, Japan)
Xiaodong Lin (University of Ontario Institute of Technology, Canada)
Xeumin (Sherman) Shen (University of Waterloo, Canada)
Kazuo Hashimoto, Nei Kato (Tohoku University, Japan)

Adding Integrity Verification Capabilities to the LDPC-Staircase Erasure Correction Codes
Mathieu Cunche, Vincent Roca (INRIA, France)

Secure RFID Authentication with Efficient Key-Lookup
Mete Akgun (Tubitak UEKAE, Turkey)
Mehmet Ufük Çağlayan, Emin Anarim (Bogazici University, Turkey)

A New Construction of Knapsack PKC By Using A Random Sequence
Yasuyuki Murakami (Osaka Electro-Communication University, Japan)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Coral Ballroom Lounge

CISS-09: Topics in Communication and Information System Security (Poster)

Chair: Zhu Han (University of Houston, USA)

DAKS: An Efficient Batch Rekeying Scheme for Departure-Aware Multicast Services
Yang Ji, Seung-Woo Seo (Seoul National University, Korea)

VisualSec: A Secure Message Delivery Scheme for Online Social Networks Based on Profile Images
Meng Ge, Kwok-yan Lam, Xiuqun Wang, Zhiguo Wan
(Tsinghua University, China)
Bin Jiang (Southeast University, China)

Reusable Set Constructions Using Randomized Dissolvent Templates for Biometric Security
Jinyang Shi, Kwok-yan Lam, Ming Gu (Tsinghua University, China)
Husheng Li (University of Tennessee, USA)

An Efficient Key Management Scheme for Live Streaming
Xingyu Li, H. Vicky Zhao (University of Alberta, Canada)

A Game Theoretic Analysis of Blacklisting in Online Data Storage Systems
Bader Ali, Muthucumaru Maheswaran (McGill University, Canada)

On Privacy of Skype VoIP Calls
Ye Zhu, Yuanchao Lu, Anil Babu Vikram (Cleveland State University, USA)
Huirong Fu (Oakland University, USA)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Kahili Suite 1

CQPRM-05: Network Modeling

Chair: Noriaki Kamiyama (NTT Service Integration Laboratories, Japan)

Performance Analysis of Communication Networks in Multi-Cluster Systems under Bursty Traffic with Communication Locality
Yulei Wu, Geyong Min (University of Bradford, UK)
Keqiu Li (Dalian University of Technology, China)
Bahman Javadi (INRIA, France)

Performance Analysis of IEEE 802.11 Ad Hoc Networks with Cooperative ARQ in the Presence of Hidden and Exposed Terminals
Georgios Kormentzas (University of the Aegean, Greece)
Jesus Alonso-Zárate
(Telecommunications Technological Centre of Catalonia, Spain)
Luis Alonso (Universidad Politecnica de Catalunya, Spain)
Christos Verikoukis
(Telecommunications Technological Centre of Catalonia, Spain)

Network Topology Discovery through Self-Constrained Decisions
Gianni Antichi, Andrea Di Pietro, Domenico Ficara, Stefano Giordano, Gregorio Procissi, Fabio Vitucci (University of Pisa, Italy)

Bridging the Gap between Mathematical Traffic Models and Operational Parameters
Kristof Sleurs, Dagang Li, Emmanuel Van Lil, Antoine Van de Capelle
(Katholieke Universiteit Leuven, Belgium)

Engset Formula for Bufferless OBS/OPS: When is and When Isn't Lengthening the Off-Time Redundant?
Andrew Zalesky (University of Melbourne, Australia)
Eric W. M. Wong, Moshe Zukerman
(City University of Hong Kong, Hong Kong)
Hai L. Vu (Swinburne University of Technology, Australia)

Stochastic Network Calculus Models under Max-Plus Algebra
Jing Xie, Yuming Jiang (Norwegian University of Science and Technology, Norway)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Kahili Suite 2

CQPRM-06: Cross-layer Design

Chair: Yannis Viniotis (North Carolina State University, USA)

Optimizing Aggregate Throughput in 802.11 Networks through Balancing Spatial Reuse and Transmission Rate
Junmei Qu, Zenghua Zhao, Lianfang Zhang, Yantai Shu
(Tianjin University, China)

Experimental Performance Evaluation of a MAC protocol for Cooperative ARQ Scenarios
Christos Verikoukis
(Telecommunications Technological Centre of Catalonia, Spain)
Ana Pérez-Neira (Universitat Politècnica de Catalunya, Spain)
Jesus Alonso-Zárate
(Telecommunications Technological Centre of Catalonia, Spain)
Harry Skianis (University of the Aegean, Greece)

Joint Power Control and FEC Unequal Error Protection for Scalable H.264 Video Transmission over Wireless Fading Channels
Chen Chi, Yu Zhang, Lele Wang (Tsinghua University, China)

Cross-layer Design for Wireless Video Streaming
Yongjin Cho, C.-C. Jay Kuo (University of Southern California, USA)
Renxiang Huang, Claudio Lima (Sprint Labs, USA)

Social Distance Aware Resource Allocation in Wireless Networks
Vineet Kulkarni, Michael Devetsikiotis (North Carolina State University, USA)

Load Balancing for Flow-based Parallel Processing Systems in CMP Platform
Tingwen Liu, Yong Sun, Zhang Bin, Li Guo
(Chinese Academy of Sciences, China)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Sea Pearl Suite 5 – 6

CSS-05: Quality of Experience (QoE) and QoS (Quality of Service)

Chair: Mohammad S. Obaidat (Monmouth University, USA)

Hybrid Tree Based Explicit Routed Multicast for QoS Supported IPTV Service
Chih-Chao Wen, Cheng-Shong Wu (National Chung-Cheng University, Taiwan)
Ming-Ta Yang (Industrial Technology Research Institute, Taiwan)

On Locating Loss Links of Signaling Messages in SIP-based Services
Takeshi Usui, Takeshi Kubo, Yoshinori Kitatsuji, Teruyuki Hasegawa, Hidetoshi Yokota (KDDI R&D Labs, Japan)

On the Objective Evaluation of Real-Time Networked Games
Arnaud Kaiser (University of Paris 13, France)
Dario Maggiorini (University of Milano, Italy)
Nadjib Achir, Khaled Boussetta (University of Paris 13, France)

Incorporating TCP Acknowledgements in MAC Layer in IEEE 802.11 Multihop Ad Hoc Networks
Lianghui Ding, Wenjun Zhang, Hui Yu, Xinbing Wang, Youyun Xu (Shanghai Jiaotong University, China)

Efficient Resource Reservation for Optical Burst Switching Networks
Walid Abdallah, Mohamed Hamdi, Noureddine Boudriga (University of Carthage, Tunisia)
Mohammad S. Obaidat (Monmouth University, USA)

Modeling and Characterizing User Experience in a Cloud Server Based Mobile Gaming Approach
Shaoxuan Wang, Sujit Dey (University of California, San Diego, USA)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Sea Pearl Suite 3 – 4

CTS-05: Channel Coding

Chair: Hamid Jafarkhani (University of California, USA)

Coding for a Bit-Shift Channel with Applications to Inductively Coupled Channels
Eirik Rosnes (University of Bergen, Norway)
Angela I. Barbero (University of Valladolid, Spain)
Øyvind Ytrehus (University of Bergen, Norway)

Performance Bounds for Linear Codes in Multi-Rate Superposition Schemes
Uttam Bhat, Dario Fertonani, Tolga M. Duman (Arizona State University, USA)

Design and Analysis of Non-binary LDPC and IRA Modulation Codes
Mao-Ching Chiu (National Chung Cheng University, Taiwan)

Spectral Graph Analysis of Quasi-Cyclic Codes
Roxana Smarandache (San Diego State University, USA)
Mark F. Flanagan (University College Dublin, Ireland)

On Asymptotic Ensemble Weight Enumerators of Multi-Edge Type Codes
Chung-Li Wang (University of California, Davis, USA)
Marc Fossorier (ETIS, France)
Shu Lin (University of California, Davis, USA)

A Systematic Reed-Solomon Encoder with Arbitrary Parity Positions
Joschi Brauchle, Ralf Koetter (Technical University of Munich, Germany)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Lehua Suite

NGNI-05: Routing & Switching II

Chair: Pramode K. Verma (University of Oklahoma, USA)

Performance Evaluation of Selected Packet Dispatching Schemes for the CBC Switches
Janusz Kleban, Szymon Piotrowski (Poznan University of Technology, Poland)

DROP: An Open-Source Project towards Distributed SW Router Architectures
Raffaele Bolla, Roberto Bruschi, Guerino Lamanna, Andrea Ranieri (University of Genoa, Italy)

An Experimental Evaluation of the Computational Cost of a DPI Traffic Classifier
Niccolò Cascarano (Politecnico di Torino, Italy)
Alice Este, Francesco Gringoli (University of Brescia, Italy)
Fulvio Risso (Politecnico di Torino, Italy)
Luca Salgarelli (University of Brescia, Italy)

Backlog Aware Scheduling for Ingress Memories in High-Radix, Single-Stage Switches
Dimitrios Tsamis, Benjamin Yolken, Nicholas Bambos (Stanford University, USA)
Wladek Olesinski, Hans Eberle, Nils Gura (Sun Microsystems Inc., USA)

Efficient Multicast Support in Buffered Crossbars using Networks on Chip
Iria Varela Senin, Lotfi Mhamdi, Kees Goossens (University of Technology-Delft, Netherlands)

Packet-mode Asynchronous Scheduling Algorithm for Partially Buffered Crossbar Switches
Masoumeh Karimi, Zhuo Sun, Deng Pan, Zesheng Chen (Florida International University, USA)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Iolani Suite 1 – 2

ONS-05: Optical Wireless Transmission

Chair: Vincent Chan (Massachusetts Institute of Technology, USA)

Coherent Optical Communication over the Turbulent Atmosphere with Spatial Diversity and Wavefront Predistortion
Andrew Puryear, Vincent Chan (Massachusetts Institute of Technology, USA)

Path Loss Simulation of an Infrared Optical Wireless System for Aircrafts
Svilen Dimitrov, Raed Mesleh (Jacobs University Bremen, Germany)
Harald Haas (University of Edinburgh, UK)
Mario Cappitelli, Michael Olbert (EADS Deutschland GmbH, Germany)
Erhard Bassow (Airbus, Germany)

On the Distribution of the Sum of Gamma-Gamma Variates and Application in MIMO Optical Wireless Systems
Nestor D. Chatzidiamantis, George K. Karagiannidis (Aristotle University of Thessaloniki, Greece)
Diomidis S. Michalopoulos (University of British Columbia, Canada)

Behavior of Hybrid Optical/RF Channels over Varying Link Distances
Ricardo Luna, Deva K. Borah, Hrishikesh Tapse (New Mexico State University, USA)

Performance Evaluation of an advanced DWDM RoFSO System for Heterogeneous Wireless
Pham Tien Dat, Abdelmoula Bekkali, Kamugisha Kazaura, Kazuhiko Wakamori, Toshiji Suzuki, Mitsuji Matsumoto (Waseda University, Japan)
Takeshi Higashino, Katsutoshi Tsukamoto, Shozo Komaki (Osaka University, Japan)

Theoretical Analysis of Optical Wireless CDMA with Modified Pseudo Orthogonal M-sequence Sets
Yusuke Kozawa, Hiromasa Habuchi (Ibaraki University, Japan)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Sea Pearl Suite 1 – 2

SAC(CRN)-05: Physical Layer Techniques for Cognitive Radio Networks

Chair: Sumit Roy (University of Washington, USA)

On Balancing Exploration vs. Exploitation on a Cognitive Engine for Multi-Antenna Systems
Haris Volos, R. Michael Buehrer
(Virginia Polytechnic Institute / State University, USA)

Receiver Statistics for Spectrum Monitoring while Communicating
Steven W. Boyd, J. Michael Frye, Michael B. Pursley (Clemson University, USA)
Thomas C. Royster IV (Massachusetts Institute of Technology, USA)

Development Framework for Implementing FPGA-based Cognitive Network Nodes
Jörg Lotze, Suhaib A. Fahmy (Trinity College Dublin, Ireland)
Juanjo Noguera (Xilinx Research Labs, Ireland)
Barış Ozgul, Linda E. Doyle (Trinity College Dublin, Ireland)
Robert Esser (Xilinx Research Labs, USA)

ICI-Minimizing Blind Uplink Time Synchronization for OFDMA-based Cognitive Radio Systems
Ismail Guvenc (DOCOMO USA Labs, USA)
Sibel Tombaz, Mustafa E. Sahin, Huseyin Arslan, Hakan Ali Çirpan
(University of South Florida, USA)

A Combined Spectrum Sensing and OFDM Demodulation Scheme
Marnix Heskamp, Cornelis Slump (University of Twente, Netherlands)

Exploiting the Multi-path Diversity and Multi-user Cooperation to Detect OFDM Signals for Cognitive Radio in Low SNR with Noise Uncertainty
Wei Zeng, Guangguo Bi (Southeast University, China)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Coral Ballroom Lounge

SAC(CRN)-09: Cognitive Radio Networks (Poster)

Chair: Mainak Chatterjee (University of Central Florida, USA)

Lp-Norm Spectrum Sensing for Cognitive Radio Networks Impaired by Non-Gaussian Noise
Farzad Moghimi, Amir Nasri, Robert Schober
(University of British Columbia, Canada)

Worst-Case Sensing Deception in Cognitive Radio Networks
Qihang Peng (University of Electronic Science Technology of China, China)
Pamela C. Cosman, Laurence B. Milstein
(University of California, San Diego, USA)

Spectrum Sensing by Cognitive Radios at Very Low SNR
Zhi Quan, Stephen J. Shellhammer, Wenyi Zhang (Qualcomm Inc., USA)
Ali H. Sayed (University of California, Los Angeles, USA)

Adaptive Lp-Norm Metric for Secondary BICM-OFDM Systems
Amir Nasri, Robert Schober (University of British Columbia, Canada)

Exploring Simulated Annealing and Graphical Models for Optimization in Cognitive Wireless Networks
Elena Meshkova, Janne Riihijärvi, Andreas Achtzehn, Petri Mähönen
(RWTH Aachen University, Germany)

Measurement based Capacity Scavenging via Whitespace Modeling in Wireless Networks
Anthony Plummer Jr., Mahmoud Taghizadeh, Subir Biswas
(Michigan State University, USA)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Iolani Suite 3 – 4

SPC-05: OFDM and Multi-carrier Systems I

Chairs: Shigeru Shimamoto (Waseda University, Japan)
Hung Nguyen (Aerospace Corporation, USA)

A Gibbs Sampling Based MAP Detection Algorithm for OFDM over Rapidly Varying Mobile Radio Channels
Erdal Panayirci (Princeton University, USA)
Hakan Dogan (Istanbul University, Turkey)
H. Vincent Poor (Princeton University, USA)

Bayesian Cramer-Rao Bound for OFDM Rapidly Time-varying Channel Complex Gains Estimation
Hussein Hijazi, Laurent Ros
(Grenoble Image Parole Signal Automatique, France)

Blind Detection of Partial Transmit Sequence in a Coded OFDM System
Koji Shibata, Julian Webber, Toshihiko Nishimura, Takeo Ohgane,
Yasutaka Ogawa (Hokkaido University, Japan)

Behavioural Analysis of Internal Mechanism of Nonlinear OFDM Signals
Yiming Lei, Máirtin O'Droma (University of Limerick, Ireland)

A Universal Frequency Offset Estimator for OFDM Applications
Ming (Matt) Ruan, Mark C. Reed (NICTA/ANU, Australia)
Zhenning Shi (Alcatel-Lucent, China)

A Hybrid Integer Carrier Frequency Offset Estimator for Practical OFDM Systems
Ming (Matt) Ruan, Mark C. Reed (NICTA/ANU, Australia)
Zhenning Shi (Alcatel-Lucent, China)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: South Pacific Ballroom 1

WCS-17: Cooperative Communication: Relay Techniques

Chair: Yuanzhu Peter Chen (Memorial University of Newfoundland, Canada)

A Novel Observe-and-Forward Scheme in Wireless Cooperative Relaying Systems
Wenjun Wu, Qingyi Quan, Yuexing Peng, Kan Zheng, Wenbo Wang
(Beijing University of Posts & Telecommunications, China)
Young il Kim (Electronics and Telecommunications Research Institute, Korea)

The Gaussian Interference Relay Channel with a Potent Relay
Ye Tian, Aylin Yener (Pennsylvania State University, USA)

Dual-Hop Adaptive Packet Transmission with Regenerative Relaying for Wireless TDD Systems
Andreas Mueller (University of Stuttgart, Germany)
Hong-Chuan Yang (University of Victoria, Canada)

Performance of Orthogonal Wireless Relay Networks with Multiple SNR-Thresholds and Multiple Hard-Decision Detections
Dian-Wu Yue, Ha H. Nguyen (University of Saskatchewan, Canada)

Multi-Frame Distributed Protocol for Analog Network Coding in Slow-Fading Channels
Jonathan Gambini, Umberto Spagnolini (Politecnico di Milano, Italy)

Adaptive Modulation and Network Coding with Optimized Precoding in Two–Way Relaying
Toshiaki Koike-Akino (Harvard University, USA)
Petar Popovski (Aalborg University, Denmark)
Vahid Tarokh (Harvard University, USA)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: South Pacific Ballroom 2

WCS-18: MIMO Precoding

Chair: Xiaodong Lin (University of Ontario, Canada)

A New THP Precoding Scheme with Effective Channel Optimization
Chunlin Yan, Hidetoshi Kayama, Wei Wang, Zhan Zhang
(DOCOMO Beijing Communications Laboratories Co., Ltd, China)

Scale-Only Tomlinson-Harashima Precoding
Kai Xie, Jing Li (Lehigh University, USA)
Xiaowen Wang, Syed Mujtaba (Apple, USA)

Unified Analysis of Linear Block Precoding for Distributed Antenna Systems
Toshiaki Koike-Akino (Harvard University, USA)
Andreas F. Molisch (University of Southern California, USA)
Zhifeng Tao, Philip Orlik (Mitsubishi Electric Research Labs, USA)
Toshiyuki Kuze (Mitsubishi Electric Corporation, Japan)

An Iterative Precoder Optimization Method for K-user Interference Channel Systems
Hakjea Sung, Kyoung-Jae Lee, Seok-Hwan Park, Inkyu Lee
(Korea University, Korea)

Linear Beamforming for Multiuser MIMO Downlink Systems with Channel Orthogonalization
Jin-Sung Kim, Sung-Hyun Moon, Inkyu Lee (Korea University, Korea)

Constellation Precoded Beamforming
Hong Ju Park, Ender Ayanoglu (University of California, Irvine, USA)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: South Pacific Ballroom 3

WCS-19: OFDMA

Chair: Jinyun Zhang (Mitsubishi Electric Research Laboratories, USA)

Opportunistic Cell Edge Selection in Multi-cell OFDMA Networks
Chun Kin Au Yeung (Purdue University, USA)
Amine Maaref, Jinyun Zhang (Mitsubishi Electric Research Laboratories, USA)

SC-FDMA versus OFDMA: Sensitivity to Large Carrier Frequency and Timing Offsets on the Uplink
K. Raghunath, A. Ananthanarayanan Chockalingam
(Indian Institute of Science, India)

A Low Complexity Receiver for OFDMA Systems at Downlink
Chia-Horng Liu (Chunghwa Telecom Co., Ltd., Taiwan)
BER-based Chunk Allocation in Multiuser OFDM Wireless Systems
Huiling Zhu, Jiangzhou Wang (University of Kent, UK)

Capacity Evaluation of DF Protocols for OFDMA Infrastructure Relay Links
Taneli Riihonen, Risto Wichman, Stefan Werner
(Helsinki University of Technology, Finland)

Diversity-Multiplexing Tradeoff in OFDMA Systems with Coherence Bandwidth Splitting
Bo Bai, Wei Chen, Zhigang Cao (Tsinghua University, China)
Khaled B. Letaief (Hong Kong University of Science & Technology, Hong Kong)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: South Pacific Ballroom 4

WCS-20: Coding and Modulation

Chair: Meera Srinivasan
(Jet Propulsion Laboratory, California Institute of Technology, USA)

A Trellis-Coded Modulation Scheme with a Novel Expanded 16-Dimensional Constant Envelope Q2PSK Constellation
Milton I. Quinteros, Edit J. Kaminsky (University of New Orleans, USA)
Kenneth V. Cartwright (College of the Bahamas, Bahamas)

Conflict Resolution by Matrix Reordering for DVB-T2 LDPC Decoders
Cédric Marchand (Universite Europeenne de Bretagne, France)
Jean-Baptiste Dore (NXP Semiconductors, France)
Laura Conde-Canencia, Emmanuel Boutillon
(Universite Europeenne de Bretagne, France)

An MSK Waveform for Radar Applications
Kevin S. Quirk, Meera Srinivasan
(Jet Propulsion Laboratory, California Institute of Technology, USA)

Practical Evaluation of Opportunistic Error Correction
Xiaoying Shao, Cornelis H. Slump (University of Twente, Netherlands)

Efficient Ranking of Rate-Compatible Puncturing Patterns for a Given LDPC Code Matrix
Sissi X. Wu, Wai Ho Mow
(Hong Kong University of Science & Technology, Hong Kong)

Multi-Rate Continuous Phase Modulations for Gaussian Broadcast Channels
Dario Fertonani, Tolga M. Duman (Arizona State University, USA)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Coral Ballroom Lounge

WCS-41: Topics in MIMO (Poster)

Chair: Gerhard Bauch (Universitaet der Bundeswehr Munich & Institute for Information Processing, Germany)

Uncertainty Processing Applied to Packet Combining in MIMO-HARQ Systems
Jinhuan Xia, Tiejun Lv
(Beijing University of Posts and Telecommunications, China)

Evolutionary Games for Hybrid Additive White Gaussian Noise Multiple Access Control
Quanyan Zhu (University of Illinois, Urbana-Champaign, USA)
Hamidou Tembine (University of Avignon, France)
Tamer Basar (University of Illinois, Urbana-Champaign, USA)

Robust Beamforming Design: From Cognitive Radio MISO Channels to Secrecy MISO Channels
Lan Zhang, Ying-Chang Liang (Institute for Infocomm Research, Singapore)
Yiyang Pei (Nanyang Technological University, Singapore)
Rui Zhang (Institute for Infocomm Research, Singapore)

How Does Correlation Affect the Capacity of MIMO Systems with Rate Constraints?
Hao Wang (Tsinghua University, China)
Peng Wang, Ping Li (City University of Hong Kong, Hong Kong)
Xiaokang Lin (Tsinghua University, China)

Kalman Filtering based Compensation for I/Q Imbalance and CFO in Time-Varying MIMO OFDM Systems
Jingbo Gao, Xu Zhu (University of Liverpool, UK)
Hai Lin (Osaka Prefecture University, Japan)
Asoke K. Nandi (University of Liverpool, UK)

On the Parameter Choice for Cyclic Delay Diversity Based Precoding with Spatial Multiplexing
Gerhard Bauch (Universitaet der Bundeswehr Munich, Germany)
Tetsushi Abe (NTT DOCOMO, Germany)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Coral Ballroom 1

WNS-09: Wireless Network Coding

Chair: Jun Zheng (Southeast University, China)

The Benefits of Network Coding over a Wireless Backbone
Hui Guo (National Institute of Standards and Technology, USA)
Yi Qian (University of Nebraska - Lincoln, USA)
Kejie Lu (University of Puerto Rico, Puerto Rico)
Nader Moayeri (National Institute of Standards and Technology, USA)

Analysis of Opportunistic Scheduling for Wireless Network Coding: Nonidentical Two-User Case
Poramate Tarasak, Ubolthip Sethakaset, Sumei Sun
(Institute for Infocomm Research, Singapore)

Opportunistic Network Coding and Dynamic Buffer Allocation in a Wireless Butterfly Network
Surachai Chieochan, Ekram Hossain (University of Manitoba, Canada)
Teerawat Issariyakul (TOT Public Company Limited, Thailand)
Dusit Niyato (Nanyang Technological University, Singapore)

Reliability-based Rate Allocation in Wireless Inter-session Network Coding Systems
Keivan Ronasi, A. Hamed Mohsenian-Rad, Vincent W. S. Wong, Sathish Gopalakrishnan, Robert Schober (University of British Columbia, Canada)

R-Code: Network Coding based Reliable Broadcast in Wireless Mesh Networks with Unreliable Links
Zhengyu Yang, Ming Li, Wenjing Lou (Worcester Polytechnic Institute, USA)

Cooperative Peer-to-Peer Information Exchange via Wireless Network Coding
Yanfei Fan, Yixin Jiang, Haojin Zhu, Xeumin (Sherman) Shen
(University of Waterloo, Canada)

Wednesday, 2 December 2009 • 14:00 – 16:00
Location: Coral Ballroom 2

WNS-10: 802.16 WiMAX Networks

Chair: Ana Garcia Armada
(Universidad Carlos III de Madrid, Spain)

Error Control Strategies for WiMAX Multi-hop Relay Networks
Weihuang Fu (University of Cincinnati, USA)
Zhifeng Tao, Jinyun Zhang (Mitsubishi Electric Research Laboratories, USA)
Dharma P. Agrawal (University of Cincinnati, USA)

An Almost Overhead-free Error Control Scheme for IEEE 802.16-based Multi-hop Networks
Yue-Ru Chuang (Fu Jen Catholic University, Taiwan)
Hsueh-Wen Tseng (Cameo Communications, Inc., Taiwan)
Shiann-Tsong Sheu (National Central University, Taiwan)
Chih-Wei Su (Institute for Information Industry, Taiwan)

Joint Base Station and Relay Station Placement for IEEE 802.16j Networks
Hsiao-Chen Lu, Wanjiun Liao (National Taiwan University, Taiwan)

System-Level Performance Evaluation of Multi-cell Transparent Mode Relay 802.16j Systems
Vasken Genc, Sean Murphy, John Murphy, Abdelhamid Nafaa
(University College Dublin, Ireland)

Quality of Activation (QoA) for Dynamic Service Flows in IEEE 802.16 Networks
Isabella Cerutti, Luca Valcarenghi, Piero Castoldi
(Scuola Superiore Sant'Anna, Italy)

Providing Quality of Service Guarantees in Multiclass IEEE 802.16e Sleep Mode
Georgios Paschos (The Center for Research and Technology Hellas, Greece)
Petteri Mannersalo (VTT Technical Research Centre of Finland, Finland)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Honolulu Suite 1

AHSN-16: Cross Layer Optimization

Chairs: Linda Jiang Xie (University of North Carolina, Charlotte, USA)
Sneha Kasera (University of Utah, USA)

A Cross-Layer ECN to Achieve Fairness among TCP Flows in Wireless Mesh Networks
Jin Ye, Jianxin Wang, Jiawei Huang (Central South University, China)
Xi Zhang (Texas A&M University, USA)

Inter-Gateway Cross-layer Handoffs in Wireless Mesh Networks
Weiyi Zhao, Jiang Xie (University of North Carolina, Charlotte, USA)

Data Acquisition through Joint Compressive Sensing and Principal Component Analysis
Riccardo Masiero, Giorgio Quer (University of Padova, Italy)
Daniele Munaretto (DOCOMO Euro-Labs, Germany)
Michele Rossi (University of Padova, Italy)
Joerg Widmer (DOCOMO Euro-Labs, Germany)
Michele Zorzi (University of Padova, Italy)

Joint Configuration of Routing and Medium Access Parameters in Wireless Networks
Md. Forkan Uddin, Catherine Rosenberg, Weihua Zhuang
(University of Waterloo, Canada)
Andre Girard (Groupe d'Etudes et de Recherche en Analyse des Decisions, Canada)

Cross-Layer Modeling of Wireless Ad Hoc Networks in the Presence of Channel Noise
Khalid M. J. Khayyat, Fayez Gebali (University of Victoria, Canada)

Cross Layer Multirate Adaptation Using Physical Capture
Jun Cheol Park, Sneha Kumar Kasera, Neal Patwari (University of Utah, USA)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Honolulu Suite 2

AHSN-17: Quality of Service

Chair: Hamid Sharif (University of Nebraska-Lincoln, USA)

MAC Support for Wireless Multimedia Sensor Networks
Osama Farrag (Johns Hopkins University Applied Physics Lab, USA)
Mohamed Younis (University of Maryland Baltimore County, USA)
William D'Amico (Johns Hopkins University Applied Physics Lab, USA)

Matching Stream Authentication and Resource Allocation to Multimedia Codec Dependency with Position-Value Partitioning in Wireless MultimediaSensor Networks
Wei Wang, Dongming Peng, Honggang Wang, Hamid Sharif
(University of Nebraska-Lincoln, USA)
Hsiao-Hwa Chen (National Cheng Kung University, Taiwan)

QoS-Driven Node Cooperative Resource Allocation for Wireless Mesh Networks with Service Differentiation
Ho Ting Cheng, Weihua Zhuang (University of Waterloo, Canada)

A Practical Approach for Providing QoS in Multichannel Ad Hoc Networks using Spectrum Width Adaptation
Vijay Raman, Matthew Caesar (University of Illinois, Urbana-Champaign, USA)

Optimum Allocation of Energy and Spectrum in Power-Controlled Wireless
Networks with QoS Constraints Stepan Kucera (NICT Keihanna, Japan)
Ludek Kucera (Charles University, Czech Republic)
Bing Zhang (NICT Keihanna, Japan)

Distributed Optimal Relay Selection for QoS Provisioning in Wireless Multi-hop Cooperative Networks
Yifei Wei (Carleton University, Canada)
Mei Song (Beijing University of Posts and Telecommunications, China)
F. Richard Yu (Carleton University, Canada)
Yong Zhang, Junde Song
(Beijing University of Posts & Telecommunications, China)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Iolani Suite 5 – 6

CISS-06: Denial of Service

Chair: Hongmei Deng (Intelligent Automation Inc., USA)

Accountable File Indexing against DDoS Attacks in Peer-to-Peer Networks
Xiaosong Lou, Kai Hwang (University of Southern California, USA)
Yue Hu (University of Science and Technology, China)

Protecting SIP against Very Large Flooding DoS Attacks
Felipe Huici, Saverio Niccolini, Nico d'Heureuse (NEC Europe Ltd., Germany)

Detection of DDoS Traffic by using the Technical Analysis used in the Stock Market
Junghoon Yun, Song Chong
(Korea Advanced Institute of Science and Technology, Korea)

RateGuard: A Robust Distributed Denial of Service (DDoS) Defense System
Huizhong Sun, Wingchiu Ngan, H. Jonathan Chao
(Polytechnic Institute of New York University, USA)

Stealthy IP Prefix Hijacking: Don't Bite Off More Than You Can Chew
Christian McArthur (Texas A&M University, USA)
Mina Guirguis (Texas State University, USA)

NSF: Network-based Spam Filtering based on On-line Blacklisting against Spamming Botnets
Byungseung Kim (Samsung Electronics Co., Ltd., Korea)
Hyogon Kim (Korea University, Korea)
Saewoong Bahk (Seoul National University, Korea)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Kahili Suite 1

CQPRM-07: Scalability, Robustness and Resilience

Chair: Tutomu Murase (NEC Corporation, Japan)

Position based Opportunistic Routing for Robust Data Delivery in MANETs
Shengbo Yang, Feng Zhong, Chai Kiat Yeo, Bu Sung Lee
(Nanyang Technological University, Singapore)
Jeff Boleng (United States Air Force Academy, USA)

Erasure Codes with a Banded Structure for Hybrid Iterative-ML Decoding
Alexandre Soro (Institut Supérieur de l'Aéronautique et de l'Espace, France)
Mathieu Cunche (Institut National de Recherche en Informatique et en Automatique, France)
Jerome Lacan (Institut Supérieur de l'Aéronautique et de l'Espace, France)
Vincent Roca (Institut National de Recherche en Informatique et en Automatique, France)

New Error Containment Schemes for H.264 Decoders
Camille Mazataud, Benny Bing (Georgia Institute of Technology, USA)

Minimum Backup Configuration-Creation Method for IP Fast Reroute
Shohei Kamamura, Takashi Miyamura, Cristel Pelsser, Ichiro Inoue, Kohei Shiomoto (NTT, Japan)

IP Fast Reroute for Double-Link Failure Recovery
Kang Xi, H. Jonathan Chao
(Polytechnic Institute of New York University, USA)

Optimized Protection Schemes for Resilient Interdomain Traffic Distribution
Miroslaw Kantor, Piotr Cholda, Andrzej Jajszczyk
(AGH University of Science and Technology, Poland)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Kahili Suite 2

CQPRM-08: Quality and Performance of Networks and Services

Chair: Tetsuya Yokotani (Mitsubishi Electric Corporation, Japan)

Parameter Setting and 2-D Stability Conditions for TCP/RED Networks
Seok Woo, Kiseon Kim (Gwangju Institute of Science and Technology, Korea)
Lei Wang, Yang Xiao (Beijing Jiaotong University, China)

Fair Queueing based Packet Scheduling for Buffered Crossbar Switches
Deng Pan, Kia Makki, Niki Pissinou (Florida International University, USA)

Fair and Efficient Dynamic Traffic Grooming Algorithm for WDM Mesh Networks
Andre Drummond, Nelson L. S. de Fonseca
(State University of Campinas, Brazil)

Fast Admission Control for Short TCP Flows
Yingxin Jiang, Aaron Striegel (University of Notre Dame, USA)

Reliable Transmission in Flow-Aware Networks
Jerzy Domzal, Robert Wójcik, Andrzej Jajszczyk
(AGH University of Science and Technology in Krakow, Poland)

A Reinforcement Learning-Based Lightpath Establishment for Service Differentiation in All-Optical WDM Networks
Izumi Koyanagi, Takuji Tachibana, Kenji Sugimoto
(Nara Institute of Science and Technology, Japan)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Coral Ballroom Lounge

CSS-06: Services and Modelization (Poster)

Chair: Fabrizio Granelli (University of Trento, Italy)

Internet Service Tiering as a Market Segmentation Strategy
Qian Lv, George N. Rouskas (North Carolina State University, USA)

Directory-Hopping based Service Discovery for Dynamic Large-scale Wireless Networks
Sok-Hyong Kim, Joo-Young Baek, Seung-Hoon Lee, Young-Joo Suh
(Pohang University of Science and Technology, Korea)

A Situation-Aware Approach for Dealing with Uncertain Context-Aware Paradigm
Xiangtao Lin, Bo Cheng, Junliang Chen
(Beijing University of Posts and Telecommunications, Taiwan)

Parameterized Anomaly Detection System with Automatic Configuration
Bruno B. Zarpelão, Leonardo S. Mendes (State University of Campinas, Brazil)
Mario L. Proença (State University of Londrina, Brazil)
Joel J. C. P. Rodrigues (University of Beira Interior, Portugal)

Communications Enablement of Software-as-a- Service (SaaS) Applications
Feng Liu, Li Li, Wu Chou (Avaya Inc., USA)

A Participation Incentive Market Mechanism for Allocating Heteogeneous Network Services
Juong-Sik Lee (Nokia Research Center, USA)
Boleslaw K. Szymanski (Rensselaer Polytechnic Institute, USA)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Sea Pearl Suite 3 – 4

CTS-06: Joint Source-Channel Coding and Compressive Sensing

Chair: Daniel J. Costello (University of Notre Dame, USA)

Asymptotically Optimal Joint Source-Channel Coding with Minimal Delay
Marius Kleiner, Bixio Rimoldi
(Ecole Polytechnique Federale de Lausanne, Switzerland)

Multi-Functional Compression with Side Information
Soheil Feizi, Muriel Medard (Massachusetts Institute of Technology, USA)

Secure Joint Source-Channel Coding for Quasi-Static Fading Channels
Tony Q. S. Quek (Institute for Infocomm Research, Singapore)
Kiran Thimme Gowda (Institut Eurecom, France)
Hyundong Shin (Kyung Hee University, Korea)

On Reducing the Complexity of Tone-Reservation Based PAPR Reduction
Schemes by Compressive Sensing Eprahim B. Al-Safadi, Tareq Y. Al-Naffouri
(King Fahd University of Petroleum & Minerals, Saudi Arabia)

Design and Analysis of Synchronizable Error-Resilient Arithmetic Codes
Hiroyoshi Morita (University of Electro-Communications, Japan)
Ying Zou (Hitachi Software Engineering, Japan)
J. van Wijngaarden (Bell Laboratories, Alcatel-Lucent, USA)

Receiver only Optimized Semi-Hard Decision VQ for Noisy Channels
Thiagarajan Ganesan, Chandra R. Murthy (Indian Institute of Science, India)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Sea Pearl Suite 5 – 6

CTS-07: Interference Networks

Chair: Aydin Sezgin (University of California, Irvine, USA)

Secure Degrees of Freedom for Gaussian Channels with Interference: Structured Codes Outperform Gaussian Signaling
Xiang He, Aylin Yener (Pennsylvania State University, USA)

Degrees of Freedom on the K-User MIMO Interference Channel with Constant Channel Coefficients for Downlink Communications
Namyoon Lee, Dohyung Park, Young-Doo Kim
(Samsung Advanced Institute of Technology, Korea)

On the Optimality of Beamforming for Multi-User MISO Interference Channels with Single-User Detection
Xiaohu Shang (Princeton University, USA)
Biao Chen (Syracuse University, USA)
H. Vincent Poor (Princeton University, USA)

Communicating Correlated Gaussian Sources over Gaussian Interference Channels
Wei Liu, Biao Chen (Syracuse University, USA)

A Two-stage Precoding Method based on Interference Alignment for Interference Channel Systems
Hakjea Sung, Seok-Hwan Park, Kyoung-Jae Lee, Inkyu Lee
(Korea University, Korea)

How to Position n Transmitter-Receiver Pairs in n-1 Dimensions such that Each Can Use Half of the Channel with Zero Interference from the Others
Rudolf Mathar, Milan Zivkovic (RWTH Aachen, Germany)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Lehua Suite

NGNI-06: Routing & Switching III

Chair: Yaohui Jin (Shanghai Jiaotong University, China)

Optimization of Multicast logd (N,m,p) Switching Networks
Grzegorz Danilewicz (Poznan University of Technology, Poland)

Improved Opportunistic Sleeping Algorithms for LAN Switches
Miguel Rodríguez Pérez, Sergio Herrería-Alonso, Manuel Fernández-Veiga, Cándido López-García (University of Vigo, Spain)

A Prefix-Distribution Adaptive Scheme For Routing Lookup Acceleration
Gianni Antichi, Andrea Di Pietro, Domenico Ficara, Stefano Giordano, Gregorio Procissi, Fabio Vitucci (University of Pisa, Italy)

Dynamic Switching Between Adaptive FEC Protocols For Reliable Multi-Source Streaming
Cédric Lamoriniere, Hamid Nafaa, Liam Murphy
(University College Dublin, Ireland)

Design of Congestion Control Based on Instantaneous Queue Sizes in the Routers
Wuhua Hu, Gaoxi Xiao (Nanyang Technological University, Singapore)

AnyTraffic Routing Algorithm for Label-based Forwarding
Pedro Pedroso, Oscar Pedrola (Universitat Politècnica de Catalunya, Spain)
Dimitri Papadimitriou (Alcatel-Lucent Bell NV, Belgium)
Miroslaw Klinkowski, Davide Careglio
(Universitat Politècnica de Catalunya, Spain)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Iolani Suite 1 – 2

ONS-06: Switching and Network Access

Chair: George N. Rouskas
(North Carolina State University, USA)

Crosstalk-Preventing Scheduling in AWG-Based Cell Switches
Andrea Bianco, David Hay, Fabio Neri (Politecnico di Torino, Italy)

The New Banyan-based Switching Fabric Architecture Composed of Asymmetrical Optical Switching Elements
Grzegorz Danilewicz, Wojciech Kabacinski, Remigiusz Rajewski
(Poznan University of Technology, Poland)

VLAN-Based Routing Infrastructure for an All-Optical Circuit Switched LAN
Xiaolan Zhang (University of Illinois, Urbana–Champaign, USA)
Rohit Wagle, James Giles (IBM T. J. Watson Research Center, USA)

Grid Reconfigurable Optical-Wireless Architecture for Large Scale Municipal Mesh Access Network
Shing-Wa Wong, Divanilson Campelo (Stanford University, USA)
Ning Cheng (Huawei Technology, USA)
She-Hwa Yen, Leonid Kazovsky, Hyunok Lee, Donald Cox
(Stanford University, USA)

Fiber-Wireless (FiWi) Networks: A Comparative Techno-Economic Analysis of EPON and WiMAX
Navid Ghazisaidi, Martin Maier
(Institut National de la Recherche Scientifique, Canada)

An Optical Access Network System without a Power Supply Using Blind Speech Separation and a Loopback Technique
Takayoshi Tashiro, Shoko Araki, Yasuhiko Nakanishi, Hideaki Kimura, Kiyomi Kumozaki, Masato Miyoshi (NTT, Japan)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Sea Pearl Suite 1 – 2

SAC(CRN)-06: MAC/Routing in Cognitive Radio Networks

Chair: Prathima Agrawal (Auburn University, USA)

Time Synchronization of Cognitive Radio Networks
Jari Nieminen (Helsinki University of Technology, Finland)
Lijun Qian (Prairie View A&M University, USA)
Riku Jantti (Helsinki University of Technology, Finland)

Optimal Route Selection and Resource Allocation in Multi-Hop Cognitive Radio Networks
Qianxi Lu, Tao Peng, Wei Wang, Wenbo Wang, Chao Hu
(Beijing University of Posts and Telecommunications, China)

A Probabilistic Approach to Identifying the Number of Frequency Hoppers for Spectrum Sensing
Yuxing Han, Shaunak Joshi (University of California, Los Angeles, USA)
Lillian Dai (Cisco, USA)
Danijela Cabric (University of California, Los Angeles, USA)
Sateesh Addepalli (Cisco, USA)
Jiangtao Wen (Tsinghua University, China)
John Villasenor (University of California, Los Angeles, USA)

Simple and Efficient MAC for Cognitive Wireless Personal Area Networks
Jelena Misic, Vojislav Misic (Ryerson University, Canada)

Spectrum-Aware Routing Protocol for Cognitive Ad Hoc Networks
Suyang Ju, Joseph B. Evans (University of Kansas, USA)

Medium Access Control Signaling for Reliable Spectrum Agile Radios
Ehsan Azarnasab, Rong-Rong Chen (University of Utah, USA)
Koon Hoo Teo, Zhifeng Tao (Mitsubishi Electric Research Laboratories, USA)
Behrouz Farhang-Boroujeny (University of Utah, USA)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Honolulu Suite 3

SAC(ET)-01: Ethernet PON and Wireless Access Networks

Chair: Marco Chiani (University of Bologna, Italy)

A Nonlinear-Predictive QoS-Promoted Dynamic Bandwidth Allocation Scheme for Triple-play Services in Ethernet Passive Optical Networks
Jan-Wen Peng (Chunghwa Telecom Laboratories, Taiwan)
Chung-Ju Chang, Po-Ling Tien (National Chiao Tung University, Taiwan)

Sleep and Adaptive Link Rate Control for Power Saving in 10G-EPON Systems
Ryogo Kubo, Jun-ichi Kani, Yukihiro Fujimoto, Naoto Yoshimoto,
Kiyomi Kumozaki (NTT, Japan)

MPCP Assisted Power Control and Performance of Cell Breathing in Integrated EPON-WiMAX Network
Shing-Wa Wong (Stanford University, USA)
Ying Yan (Technical University of Denmark, USA)
Leonid Kazovsky (Stanford University, USA)
Lars Dittmann (Technical University of Denmark, Denmark)

Integrated Approach to Proportional-fair Resource Allocation for Multiclass Services in an OFDMA System
Nararat Ruangchaijatupon (Graduate University for Advanced Studies, Japan)
Yusheng Ji (National Institute of Informatics, Japan)

Scalable Peer-to-Peer Video Streaming in WiMAX Networks
Muhammad Aman, Biplab Sikdar (Rensselaer Polytechnic Institute, USA)
Shyam Parekh (Alcatel-Lucent, USA)

Scalable Video Multicast on Broadcast Channels
Jun Xu (Shanghai Jiao Tong University, China)
Raju Hormis (Analog Devices, USA)
Xiaodong Wang (Columbia University, USA)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Iolani Suite 3 – 4

SPC-06: OFDM and Multi-carrier Systems II

Chairs: Hai Lin (Osaka Prefecture University, Japan)
Hsiao-Chun Wu (Louisiana State University, USA)

Dual Transform Domain Echo Canceller for Discrete Multitone Systems
Neda Ehtiati, Benoit Champagne (McGill University, Canada)

Efficient Pilot-Aided Digital Baseband Compensation of Phase Noise ICI in OFDM Receivers
Payam Rabiei, Won Namgoong, Naofal Al-Dhahir
(University of Texas, Dallas, USA)

Compensation of the Impact of Interference Mitigation by Pulse Blanking in OFDM Systems
Sinja Brandes, Ulrich Epple, Michael Schnell
(German Aerospace Center, Germany)

IBI Cancellation Based on Limited Channel Feedback for OFDM Systems over Channels with Large Delay Spreads
Xia Wang (Xi'an Jiaotong University, China)
Geoffrey Ye Li (Georgia Institute of Technology, USA)
Hongjie Hu, Long Qin, Anthony Soong (Huawei Technologies, USA)

Intercarrier Interference Immune Single Carrier OFDM via Magnitude Shift Keying Modulation
Xue Li, Ruolin Zhou (Wright State University, USA)
Vasu Chakravarthy (Air Force Research Laboratory, USA)
Zhiqiang Wu (Wright State University, USA)

Construction of M-QAM Sequences Based on Generalized Rudin-Shapiro Polynomials
Yajun Wang, Wen Chen, Wei Chen (Shanghai Jiaotong University, China)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Coral Ballroom Lounge

SPC-13: Topics in Signal Processing for Communications I (Poster)

Chairs: John Thompson (University of Edinburgh, UK)
Hung Nguyen (Aerospace Corporation, USA)

A Subspace Method for the Blind Identification of Multiple Time-Varying FIR Channels
Benoit Champagne, Amr El-Keyi, Chao-Cheng Tu (McGill University, Canada)

Cramér-Rao Bound for NDA DOA Estimates of Square QAM-Modulated Signals
Faouzi Bellili, Sonia Ben Hassen, Sofiene Affes, Alex Stephenne
(Institut National de la Recherche Scientifique, Canada)

Multiple Target Localization Using Compressive Sensing
Chen Feng, Shahrokh Valaee (University of Toronto, Canada)
Zhenhui Tan (Beijing Jiaotong University, China)

Channel Orthogonalizing Precoder for Open-loop QO-STBC Systems
Heejin Kim (Korea University, Korea)
Heunchul Lee (Stanford University, USA)
Inkyu Lee (Korea University, Korea)

A Convex Optimization Approach to Blind Channel Shortening in Multicarrier Modulations
Huy-Dung Han, Zhi Ding (University of California, Davis, USA)

Iterative Interference Cancellation for STBC-OFDM Systems in Fast Fading Channels
Ci-Ye Tso, Jen-Ming Wu (National Tsing Hua University, Taiwan)
Pang-An Ting (Industrial Technology Research Institute, Taiwan)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: South Pacific Ballroom 1

WCS-21: Cooperative Communication: Power and Resource Allocation

Chair: Yonghui Li (University of Sydney, Australia)

Distributed Relay-Source Assignment for Cooperative Wireless Networks Using Two-sided Market Games
Dapeng Li, Jing Liu, Youyun Xu, Xinbing Wang, Wen Chen
(Shanghai Jiaotong University, China)

On the Optimal Power Control of Parallel OFDM Relaying Networks
Yingnan Zhang, Qiao Wang (Southeast University, China)

Relaying Power Allocation with User-Cooperation for OFDM-based MISO Broadcast Channels
Hyukjoon Kwon, Hui Won Je, John M. Cioffi (Stanford University, USA)

Joint Optimization of Power Allocation and Relay Location for Decode-and-Forward Dual-Hop Systems over Nakagami-m Fading Channels
Salama S. Ikki, Murat Uysal (University of Waterloo, Canada)
Mohamed H. Ahmed (Memorial University, Canada)

Power and Location Optimization for Decode-and-forward Opportunistic Cooperative Networks
Changqing Yang, Wenbo Wang, Shuang Zhao, Mugen Peng
(Beijing University of Posts & Telecommunications, China)

Joint Source Power Scheduling and Distributed Relay Beamforming in Multiuser Cooperative Wireless Networks
Xin Li, Yimin Zhang, Moeness G. Amin (Villanova University, USA)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: South Pacific Ballroom 2

WCS-22: UWB

Chair: Lutz Lampe (University of British Columbia, Canada)

Performance Analysis of a Multiband OFDM UWB System in the Presence of Narrowband Interference
Francisco C. B. F. Muller, Aldebaro Klautau
(Universidade Federal do Para, Brazil)
Claudio R. C. da Silva (Virginia Polytechnic Institute / State University, USA)

An Ultra-Wideband Impulse-Radio Communication Method and Transceiver
Emil Novakov, Jean-Michel Fournier
(Institut de Microélectronique, Electromagnétisme et Photonique, France)

Compressed Sensing Reception of Bursty UWB Impulse Radio is Robust to Narrow-band Interference
Anand Oka, Lutz Lampe (University of British Columbia, Canada)

Effects of Time Variant Channel on a Time Reversal UWB System
Ijaz Haider Naqvi, Philippe Besnier, Ghaïs El Zein
(Institute of Electronics and Telecommunications of Rennes, France)

On the Use of Multipath Geometry for Wideband Cooperative Localization
Yuan Shen, Moe Z. Win (Massachusetts Institute of Technology, USA)

Nonparametric Obstruction Detection for UWB Localization
Stefano Maranò (ETH Zurich, Switzerland)
Wesley M. Gifford, Henk Wymeersch, Moe Z. Win
(Massachusetts Institute of Technology, USA)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: South Pacific Ballroom 3

WCS-23: Fading Channels

Chair: Youjian (Eugene) Liu (University of Colorado, Boulder, USA)

On the Use of High-Order Moment Matching to Approximate the Generalized-K Distribution by a Gamma Distribution
Saad Al-Ahmadi, Halim Yanikomeroglu (Carleton University, Canada)

Numerical Computation of the Lognormal Sum Distribution
Damith Senaratne, Chintha Tellambura (University of Alberta, Canada)

Fitting the Modified–Power–Lognormal to the Sum of Independent Lognormals Distribution
Sebastian S. Szyszkowicz, Halim Yanikomeroglu (Carleton University, Canada)

Carrier to Interference Ratio Analysis for the Shotgun Cellular System
Prasanna Madhusudhanan, Juan R. Restrepo, Youjian (Eugene) Liu,
Timothy X. Brown (University of Colorado, USA)

The η– λ– μ: A General Fading Distribution
Anastasios K. Papazafeiropoulos, Stavros K. Kotsopoulos
(University of Patras, Greece)

Constellation Subset Selection: Theories and Algorithms
Hsiao-Chun Wu (Louisiana State University, USA)
Shih Yu Chang (National Tsing Hua University of Taiwan, Taiwan)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: South Pacific Ballroom 4

WCS-24: Localization

Chair: Michael Buehrer (Virginia Tech, USA)

Received Signal Strength-Based Wireless Localization via Semidefinite Programming
Robin Wentao Ouyang, Albert Kai-Sun Wong, Chin Tau Lea,
Victoria Ying Zhang
(Hong Kong University of Science and Technology, Hong Kong)

Location Estimation Using Differential RSS with Spatially Correlated Shadowing
Jeong Heon Lee, R. Michael Buehrer
(Virginia Polytechnic Institute / State University, USA)

Constrained Weighted Least Square Optimization for Vehicle Position Tracking
Lubna Farhi, Lian Zhao, Zaiyi Liao (Ryerson University, Canada)

Localization using Radial Basis Function Networks and Signal Strength Fingerprints in WLAN
Christos Laoudias (University of Cyprus, Cyprus)
Paul Kemppi (VTT Technical Research Centre of Finland, Finland)
Christos G. Panayiotou (University of Cyprus, Cyprus)

Data-Aided Location Estimation in Cellular OFDM Communications Systems
Christian Mensing, Stephan Sand, Armin Dammann
(German Aerospace Center, Germany)
Wolfgang Utschick (Munich University of Technology, Germany)

AECID Fingerprinting Positioning Performance
Liang Shi (Ericsson (China) Communication Company Ltd., China)
Torbjörn Wigren (Uppsala University, Sweden)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Coral Ballroom Lounge

WCS-42: Topics in Cooperative Communication (Poster)

Chair: Tomoaki Ohtsuke (Keio University, Japan)

Signal Transmission with Unequal Error Protection in Wireless Relay Networks
Ha X. Nguyen, Ha H. Nguyen (University of Saskatchewan, Canada)
Tho Le-Ngoc (McGill University, Canada)

Capacity Performance of Amplify-and-Forward MIMO Relay with Transmit Antenna Selection and Maximal-Ratio Combining
Shuping Chen, Wenbo Wang, Xing Zhang, Mugen Peng
(Beijing University of Posts and Telecommunications, China)
Dong Zhao (Nokia Siemens Networks, China)

Multiple Repeater Placement for Assisting Long-Range LOS MIMO Links
Brett T. Walkenhorst, Mary Ann Ingram (Georgia Institute of Technology, USA)

Cooperative Diversity Can Mitigate Keyhole Effects in Wireless MIMO Systems
Oussama Souihli, Tomoaki Ohtsuki (Keio University, Japan)

Joint Power and Channel Resource Allocation for F/TDMA Decode and Forward Relay Networks
Yin Sun, Yuanzhang Xiao, Ming Zhao, Xiaofeng Zhong, Shidong Zhou
(Tsinghua University, China)
Ness B. Shroff (Ohio State University, USA)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Coral Ballroom 1

WNS-11: Game Theory in Wireless Networks

Chair: Floriano De Rango (University of Calabria, Italy)

An Interference Minimization Game Theoretic Subcarrier Allocation Algorithm for OFDMA-based Distributed Systems
Quang Duy La (Nanyang Technological University, Singapore)
Yong Huat Chew (Institute for Infocomm Research, Singapore)
Boon Hee Soong (Nanyang Technological University, Singapore)

QoS-Driven Power-Allocation Game over Fading Multiple-Access Channels
Qinghe Du, Xi Zhang (Texas A&M University, USA)

Radio-Aware Scheduler for WiMAX Systems based on Time-Utility Function and Game Theory
Rosario G. Garroppo, Stefano Giordano, Davide Iacono
(University of Pisa, Italy)

Mitigating Self-interference among IEEE 802.22 Networks: A Game Theoretic Perspective
Swastik Brahma, Mainak Chatterjee (University of Central Florida, USA)

Resource Pricing with Primary Service Guarantee in Cognitive Radio
Networks: A Stackelberg Game Approach Yun Li, Xinbing Wang
(Shanghai Jiaotong University, China)
Mohsen Guizani (Western Michigan University, USA)

Revenue Maximizing Game and its Extention for Multicell Wireless Access Networks
Seowoo Jang, Sung-Guk Yoon, Saewoong Bahk
(Seoul National University, Korea)

Wednesday, 2 December 2009 • 16:30 – 18:30
Location: Coral Ballroom 2

WNS-12: UMTS and LTE

Chairs: Youngchul Sung (KAIST, Korea)
Mohamed M. Abd-El Aziz Moustafa (Akhbar El Yom Academy, Egypt)

Erlang Capacity of UMTS Using Perceptual-based Power Control: An Analytical Framework
Behrooz Rohani (Serck Controls Pty Ltd., Australia)
Hans-Juergen Zepernick (Blekinge Institute of Technology, Sweden)

Mobility and Capacity Offload for 3G UMTS Femtocells
Farhad Meshkati, Yi Jiang, Lenny Grokop, Sumeeth Nagaraja, Mehmet Yavuz, Sanjiv Nanda (Qualcomm, Inc, USA)

Modelling of the WCDMA Interface in the UMTS Network with Soft Handoff Mechanism
Maciej Stasiak, Piotr Zwierzykowski, Damian Parniewicz
(Poznan University of Technology, Poland)

Hybrid Spectrum Usage for Overlaying LTE Macrocell and Femtocell
Yong Bai, Juejia Zhou, Lan Chen
(DOCOMO Beijing Communications Laboratories Co. Ltd., China)

3GPP LTE Downlink System Performance
Amir Farajidana, Wanshi Chen, Aleksandar Damnjanovic, Taesang Yoo, Durga Malladi, Christopher Lott (Qualcomm, Inc., USA)

Cooperation-Multiuser Diversity Tradeoff in Wireless Cellular Networks
Zheng Wang, Mingyue Ji, Hamid R. Sadjadpour,
Jose Joaquin Garcia-Luna-Aceves (University of California, Santa Cruz, USA)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Honolulu Suite 1

AHSN-18: Deployment Strategies

Chairs: Jian Tang (Montana State University, USA)
Bala Natarajan (Kansas State University, USA)

Strong Barrier Coverage with Directional Sensors
Li Zhang, Jian Tang (Montana State University, USA)
Weiyi Zhang (North Dakota State University, USA)

Fundamental Results on Target Coverage Problem in Wireless Sensor Networks
Yu Gu (University of Science and Technology of China, China)
Yusheng Ji (National Institute of Informatics, Japan)
Jie Li (University of Tsukuba, Japan)
Baohua Zhao
(State Key Laboratory of Networking and Switching Technology, China)

Sensor Deployment for Collaborative Target Detection in the Presence of Obstacles
Tai-Lin Chin (National Taiwan University of Science and Technology, Taiwan)

Iterative Node Deployment in an Unknown Environment
Assane Gueye, Sinem Coleri Ergen, Alberto Sangiovanni-Vincentelli
(University of California, Berkeley, USA)

Optimal Sensor Deployment for Value-Fusion Based Detection
Ahmad Ababnah, Balasubramaniam Natarajan (Kansas State University, USA)

A Lightweight Iterative Positioning Algorithm for Context-Aware Wireless Sensor Networks: Proof of Correctness
Anahit Martirosyan, Azzedine Boukerche (University of Ottawa, Canada)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Honolulu Suite 2

AHSN-19: Localization I

Chair: Richard Martin (Rutgers University, USA)

A Novel Non-iterative Localization Solution
Junlin Yan, Christian C. J. Tiberius, Giovanni Bellusci, Gerard J. M. Janssen
(Delft University of Technology, Netherlands)

Lightweight Object Localization with a Single Camera in Wireless Multimedia Sensor Networks
Hakan Oztarak (Middle East Technical University, Turkey)
Kemal Akkaya (Southern Illinois University Carbondale, USA)
Adnan Yazici (Middle East Technical University, Turkey)

Bias-Correction in Localization Algorithms
Yiming Ji, Changbin Yu, Brian D. O. Anderson
(Australian National University, Australia)

Sequential Greedy Localization in Wireless Sensor Networks with Inaccurate Anchor Positions
Qingjiang Shi, Chen He (Shanghai Jiao Tong University, China)
Hongyang Chen (University of Tokyo, Japan)
Lingge Jiang, Wei Wang (Shanghai Jiao Tong University, China)

Restarting Particle Filters: an Approach to Improve the Performance of Dynamic Indoor Localization
Begumhan Turgut, Richard Martin (Rutgers University, USA)

Understanding and Solving Flip-Ambiguity in Network Localization via Semidefinite Programming
Stefano Severi (University of Bologna, Italy)
Giuseppe de Abreu, Giuseppe Destino (University of Oulu, Finland)
Davide Dardari (University of Bologna, Italy)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Iolani Suite 5 – 6

CISS-07: Wireless Network Security

Chair: Mieso Denko (University of Guelph, Canada)

Implementation and Benchmarking of Hardware Accelerators for Ciphering in LTE Terminals
Sebastian Hessel, David Szczesny, Nils Lohmann, Attila Bilgic
(Ruhr-Universität Bochum, Germany)
Josef Hausner (Infineon Technologies, Germany)

Modeling Worm Propagation through Hidden Wireless Connections
Bo Gu, Xiaoyan Hong, Pu Wang (University of Alabama, USA)

Lightweight Jammer Localization in Wireless Networks: System Design and Implementation
Konstantinos Pelechrinis (University of California, Riverside, USA)
Iordanis Koutsopoulos (University of Thessaly, Greece)
Ioannis Broustis, Srikanth V. Krishnamurthy
(University of California, Riverside, USA)

The Directional Attack on Wireless Localization – or – How to Spoof Your Location with a Tin Can
Kevin Bauer, Damon McCoy, Eric Anderson, Markus Breitenbach, Greg Grudic, Dirk Grunwald, Douglas Sicker (University of Colorado, USA)

Building Femtocell More Secure with Improved Proxy Signature
Chan-Kyu Han, Hyoung-Kee Choi, In-Hwan Kim
(Sungkyunkwan University, Korea)

A Trust Management Scheme for Enhancing Security in Pervasive Wireless Networks
Mieso Denko, Tao Sun (University of Guelph, Canada)
Isaac Woungang (Ryerson University, Canada)
Joel J. C. P. Rodrigues (University of Beira Interior, Portugal)
Han-Chieh Chao (National I-Lan University, Taiwan)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Kahili Suite 1

CQPRM-09: Quality in Multimedia Networks

Chair: Harry Skianis (University of the Aegean, Greece)

On Characterizing PPStream: Measurement and Analysis of P2P IPTV under Large-Scale Broadcasting
Wei Liang, Jingping Bi, Rong Wu, Zhenyu Li
(Chinese Academy of Sciences, China)
Chen Li (Beijing University of Post and Telecommunications, China)

A Fast Reroute Scheme for IP Multicast
Adrian Tam, Kang Xi, H. Jonathan Chao
(Polytechnic Institute of New York University, USA)

Evaluating Quality of Experience for Streaming Video in Real-Time
Mukundan Venkataraman, Mainak Chatterjee
(University of Central Florida, USA)
Siddhartha Chattopadhyay (Google Inc, USA)

Evaluating Peer Churn Effects on P2P-based Video-on-Demand Services
Giovanni Branca (University of Cagliari, Italy)
Thomas Schierl (Heinrich-Hertz-Institute, Germany)
Luigi Atzori (University of Cagliari, Italy)

Priority Based Dynamic Rate Control for VoIP Traffic
Fariza Sabrina (Commonwealth Scientific and Industrial Research Organization, Australia)
Jean-Marc Valin (Octasic Inc., Canada)

Maximizing QoE of Interactive Services with Audio-Video Transmission over Bandwidth Guaranteed IP Networks
Shuji Tasaka, Norihito Misaki (Nagoya Institute of Technology, Japan)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Coral Ballroom Lounge

CQPRM-12: Topics in Communications QoS, Reliability and Performance Modeling I (Poster)

Chair: Hajime Nakamura (KDDI R&D Laboratories Inc., Japan)

A Logic Distance-based Method for Deploying Probing Sources in the Topology Discovery
Xin Zou, Qiao Zhong Liang, Gang Zhou, Ke Xu (Beihang University, China)

Hybrid Traffic Classification Approach based on Decision Tree
Wei Lu, Mahbod Tavallaee, Ali A. Ghorbani
(University of New Brunswick, Canada)

On the Role of Flows and Sessions in Internet Traffic Modeling: An Explorative Toy-Model
Fabio Ricciato, Angelo Coluccia (University of Salento, Italy)
Alessandro D'Alconzo (Forschungszentrum Telekommunikation Wien, Austria)
Darryl Veitch (ARC Special Research Centre for Ultra-Broadband Information Networks, Australia)
Pierre Borgnat, Patrice Abry (University of Lyon, France)

An Efficient and Loss Tolerant Method for Measuring Available Bandwidth
Victor Vfajardo, Yuu-Heng Cheng (Telcordia Technologies, USA)
Gautam Parmar (Toshiba, USA)
Yoshihiro Ohba (Toshiba, Japan)

Performance Modelling and Analysis of Interconnection Networks with Spatio-Temporal Bursty Traffic
Geyong Min, Yulei Wu (University of Bradford, UK)
Mohamed Ould-Khaoua (University of Glasgow, UK)
Hao Yin (Tsinghua University, China)
Keqiu Li (Dalian University of Technology, China)

Performance Analysis of Shortest Path Bridging Control Protocols
Janos Farkas, Zoltan Arato (Ericsson, Hungary)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Sea Pearl Suite 3 – 4

CTS-08: Low Density Parity Check Codes

Chair: Adriaan J. van Wijngaarden (Bell Laboratories, USA)

Growth Rate of the Weight Distribution of Doubly-Generalized LDPC Codes: General Case and Efficient Evaluation
Mark Flanagan (University College Dublin, Ireland)
Enrico Paolini, Marco Chiani (University of Bologna, Italy)
Marc Fossorier (ETIS ENSEA, France)

Ensemble Pseudocodeword Weight Enumerators for Protograph-Based Generalized LDPC Codes
Shadi Abu-Surra (University of Arizona, USA)
Dariush Divsalar (Jet Propulsion Laboratory, USA)
William E. Ryan (University of Arizona, USA)

Sparse Decoding of Low Density Parity Check Codes Using Margin Propagation
Ming Gu, Kiran Misra, Hayder Radha, Shantanu Chakrabartty
(Michigan State University, USA)

Pivoting Algorithms for Maximum Likelihood Decoding of LDPC Codes over Erasure Channels
Gianluigi Liva, Balazs Matuz (German Aerospace Centre, Germany)
Enrico Paolini, Marco Chiani (University of Bologna, Italy)

Undetected Errors in Quasi-cyclic LDPC Codes Caused by Receiver Symbol Slips
Alexander Kaiser (University of California, Berkeley, USA)
Sam Dolinar, Michael K. Cheng (Jet Propulsion Laboratory, USA)

A Relaxed Half-Stochastic Iterative Decoder for LDPC Codes
François Leduc-Primeau, Saied Hemati, Warren J. Gross, Shie Mannor
(McGill University, Canada)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Sea Pearl Suite 5 – 6

CTS-09: Interference and Relay Networks

Chair: Rui Zhang (Institute of Infocomm Research, Singapore)

Capacity Outer Bounds for the Cognitive Z Channel
Yi Cao, Biao Chen (Syracuse University, USA)

Coverage in Tiered Cellular Networks with Spatial Diversity
Vikram Chandrasekhar (Texas Instruments, USA)
Marios Kountouris (SUPELEC, France)
Jeffrey G. Andrews (University of Texas, Austin, USA)

Delay-Throughput Tradeoff for Supportive Two-Tier Networks: A Static Primary Tier vs. a Mobile Secondary Tier
Long Gao (Texas A&M University, USA)
Rui Zhang (Institute of Infocomm Research, Singapore)
Shuguang Cui (Texas A&M University, USA)

Optimal Scheduling in Interference Limited Fading Wireless Networks
Sastry Kompella (Naval Research Laboratory, USA)
Hanif Sherali (Virginia Polytechnic Institute and State University, USA)
Anthony Ephremides (University of Maryland at College Park, USA)

Coding Strategies for Bidirectional Relaying for Arbitrarily Varying Channels
Rafael F. Wyrembelski, Igor Bjelaković, Holger Boche
(Technical University of Berlin, Germany)

Diversity and Multiplexing of Opportunistic Shared Relay Channel and the X-Relay Channel
Mohamed Abouelseoud, Aria Nosratinia (University of Texas, Dallas, USA)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Lehua Suite

NGNI-07: Routing & Switching IV

Chair: Gregorz Danilewicz
(Poznan University of Technology, Poland)

Scalable Support of Interdomain Routes in a Single AS
Cristel Pelsser, Akeo Masuda, Kohei Shiomoto (NTT, Japan)

Scalable Multi-Region Routing at Inter-Domain Level
Pedro Amaral, Francisco Ganhão, Claudio Assunção, Luis Bernardo, Paulo Pinto (Universidade Nova de Lisboa, Portugal)

From Trees to DAGs: Improving the Performance of Bridged Ethernet Networks
Chen Avin, Ran Giladi, Nissan Lev-tov, Zvi Lotker
(Ben Gurion University, Israel)

OSPF-based Fast Reroute for BGP Link Failures
Masafumi Watari, Yuichiro Hei, Shigehiro Ano
(KDDI R&D Laboratories, Japan)
Katsuyuki Yamazaki (Nagaoka University of Technology, Japan)

Fast Network Failure Recovery Using Multiple BGP Routing Planes
Ning Wang, Yu Guo, Kin-Hon Ho, Michael Howarth
(University of Surrey, UK)
George Pavlou (University College London, UK)

On the Eyeshots of BGP Vantage Points
Kai Chen (Northwestern University, USA)
Chengchen Hu (Tsinghua University, China)
Yan Chen (Northwestern University, USA)
Bin Liu (Tsinghua University, China)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Iolani Suite 1 – 2

ONS-07: Traffic Grooming and Network Design

Chair: Xiaojun Cao (Georgia State University, USA)

Distributed Grooming in Multi-Domain IP/MPLS-DWDM Networks
Qing Liu (Oak Ridge National Laboratory, USA)
Tannous Frangieh (Virginia Polytechnic Institute and State University, USA)
Feng Xu, Chongyang Xie, Nasir Ghani (University of New Mexico, USA)
Ashwin Gumaste (Indian Institute of Technology Bombay, India)
Tom Lehman (University of Southern California, USA)
Chin Guok (ESnet, USA)
Scott Klasky (Oak Ridge National Laboratory, USA)

Design and Provisioning of WDM Networks for Many-to-Many Traffic Grooming
Mohammad A. Saleh, Ahmed E. Kamal (Iowa State University, USA)

REPARE: Regenerator Placement and Routing Establishment in Translucent Networks
Weiyi Zhang (North Dakota State University, USA)
Jian Tang (Montana State University, USA)
Kendall Nygard (North Dakota State University, USA)
Chonggang Wang (NEC Laboratories America, USA)

Non-uniform Waveband Switching in Multi-granular Optical Networks
Yang Wang, Xiaojun Cao (Georgia State University, USA)

On the Efficiency of a Game Theoretic Approach to Sparse Regenerator Placement in WDM Networks
Diego Lucerna, Nicola Gatti, Guido Maier, Achille Pattavina
(Politecnico di Milano, Italy)

Power Efficient Traffic Grooming in Optical WDM Networks
Emre Yetginer (Bilkent University, Turkey)
George N. Rouskas (North Carolina State University, USA)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Sea Pearl Suite 1 – 2

SAC(CRN)-07: Cooperation in Cognitive Radio Networks I

Chair: Saeed Ghassemzadeh (AT&T Labs - Research, USA)

Cooperative Spectrum Sensing Using Free Probability Theory
Lei Wang, Baoyu Zheng, Jingwu Cui, Sulan Tang
(Nanjing University of Posts and Telecomm, China)
Haie Dou (Southeast University, China)

Efficient Cooperative Spectrum Sensing in Cognitive Radio
Dan Wang, Ahmed Tewfik (University of Minnesota, USA)

Collaborative Quickest Spectrum Sensing Via Random Broadcast in Cognitive Radio Systems
Husheng Li (University of Tennessee, USA)
Huaiyu Dai, Chengzhi Li (North Carolina State University, USA)

Information Sharing in Spectrum Auction for Dynamic Spectrum Access
Hui Yu, Lin Gao, Yun Li, Xiaoying Gan, Xinbing Wang, Youyun Xu,
Wen Chen (Shanghai Jiaotong University, China)
Athanasios Vasilakos (University of Western Macedonia, Greece)

Spectrum Self-coexistence in Cognitive Wireless Access Networks
Tao Chen (VTT, Finland)
Honggang Zhang (Zhejiang University, China)
Marko Höyhtyä, Marcos D. Katz (VTT, Finland)

Measurement based Capacity Scavenging via Whitespace Modeling in Wireless Networks
Anthony Plummer, Jr., Mahmoud Taghizadeh, Subir Misway
(Michigan State University, USA)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Honolulu Suite 3

SAC(ET)-02: Power-Line Communications and Technologies for Access Networks

Chair: Lutz Lampe (University of British Columbia, Canada)

A Unified Structure for Multi-Carrier Modulations in Power-Line Communications
Hao Lin, Pierre Siohan (France Telecom, France)

An Adaptive Procedure for Impulsive Noise Mitigation over Power Line Channels
Gaetan Ndo, Pierre Siohan, Marie-Helene Hamon (France Telecom, France)

Inter-packet Channel Estimation in OFDM Systems
Gabriele Dell'Amico, Eleonora Guerrini, Raffaele Riva
(STMicroelectronics S.r.l., Italy)

Joint Channel and Echo Impulse Response Shortening for High-Speed Data Transmission
Ali Enteshari, Jarir M. Fadlullah, Mohsen Kavehrad
(Pennsylvania State University, University Park, USA)

A Novel Time Domain Synchronous Orthogonal Frequency Division Multiple Access Scheme
Linglong Dai, Jian Fu, Jun Wang, Jian Song, Zhixing Yang
(Tsinghua University, China)

Advanced Wireless IP Access System (WIPAS) for Higher Speed and Real-Time Communication Services
Kiyohiko Itokawa, Toru Nishikawa, Akira Matsushita, Mitsuru Nishino,
Yasunari Takahata, Yoshihiko Shindo (NTT, Japan)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Iolani Suite 3 – 4

SPC-07: Signal Detection and Synchronization I

Chairs: Zhiqiang Wu (Wright State University, USA)
Hung Nguyen (The Aerospace Corporation, USA)

Signal Estimation in Clutter Using SVM-based Chaos Synchronization
Di He (Shanghai Jiao Tong University, China)

Low-Complexity Near-Optimal Presence Detector for Linearly Modulated Signals
Jeong Ho Yeo, Joon Ho Cho
(Pohang University of Science and Technology, Korea)

On-line Hybrid Cramér-Rao Bound for Oversampled Dynamical Phase and Frequency Offset Estimation
Jordi Vilà Valls, Jean-Marc Brossier, Laurent Ros
(Grenoble Institute of Technology, France)

Near-ML Detection over a Reduced Dimension Hypersphere
Jun Won Choi (University of Illinois, Urbana-Champaign, USA)
Byonghyo Shim (Korea University, Korea)
Andrew Singer (University of Illinois, Urbana-Champaign, USA)

IDMA vs. CDMA: Detectors, Performance and Complexity
Katsutoshi Kusume, Gerhard Bauch (DOCOMO Euro-Labs, Germany)
Wolfgang Utschick (Technische Universität München, Germany)

Jamming Mitigation Techniques based on Message-Driven Frequency Hopping
Lei Zhang, Jian Ren, Tongtong Li (Michigan State University, USA)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Coral Ballroom Lounge

SPC-14: Signal Processing for Communications II (Poster)

Chairs: Tomoaki Ohtsuki (Keio University, Japan)
Hung Nguyen (The Aerospace Corporation, USA)

Soft-decode-and-forward for Asynchronous Wireless Network with Doubly-selective Fading
Jingxian Wu (University of Arkansas, USA)

Distributed Null-Steering Beamforming for Wireless Sensor Networks
Keyvan Zarifi, Sofiene Affes (University of Quebec, Canada)
Ali Ghrayeb (Concordia University, Canada)

Joint Power Allocation and Relay Selection in Cooperative Networks
Khoa T. Phan (University of California, Los Angeles, USA)
Duy H. Nguyen, Tho Le-Ngoc (McGill University, Canada)

Optimized Spreading Code Reallocation Technique for PAPR Reduction in MC-CDMA systems
Lin Yang, Mingli You, Jun Li (Alcatel Lucent Shanghai Bell, China)

Optimized Architecture for Computing Zadoff-Chu Sequences with Application to LTE
Mohammad M. Mansour (American University of Beirut, Lebanon)

SSCT: A Simple Sequential Spectrum Sensing Scheme for Cognitive Radio
Yan Xin, Honghai Zhang, Sampath Rangarajan (NEC Labs America, USA)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: South Pacific Ballroom 1

WCS-25: Cooperative Communication: Distributed Modulation and Coding

Chair: Sami Muhaidat (Simon Fraser University, Canada)

Cooperative Transmission with Continuous Phase Frequency Shift Keying and Phase-Forward Relays
Qi Yang, Paul Ho (Simon Fraser University, Canada)

Energy-Efficient Space-Time Coded Cooperative Routing in Multihop Wireless Networks
Behrouz Maham (University of Oslo, Norway)
Ravi Narasimhan (Quantenna Communications, USA)
Are Hjørungnes (University of Oslo, Norway)

Design of Signal Constellation Rearrangement (CoRe) for Multiple Relay Links
Jinwoo Kim (Korea University, South Korea)
Hee S. Lee, Jae Y. Ahn (ETRI, South Korea)
Chung G. Kang (Korea University, South Korea)

Design of Distributed Space-Time Block Code for Two-Relay System over Frequency Selective Fading Channels
Quoc-Tuan Vien, Le-Nam Tran, Een-Kee Hong (Kyung Hee University, Korea)

Iteratively Suboptimum Decoder Design for Distributed Space-Time Coding Based on Distributed Interleavers
Yier Yan, Xueqin Jiang, Moon Ho Lee (Chonbuk University, Korea)

Successive Relaying Aided Near-Capacity Irregular Distributed Space-Time Coding
Lingkun Kong, Soon Xin Ng, Robert G. Maunder, Lajos Hanzo
(University of Southampton, UK)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: South Pacific Ballroom 2

WCS-26: Cognitive Radio

Chair: Chonggang Wang (NEC Laboratories America, USA)

Bandpass Sampling Digital Frontend Architecture for Multi-band Access Cognitive Radio
Jae Hyung Kim, Hongmei Wang (Changwon National University, Korea)
Hyung-Jung Kim, Jin-Up Kim
(Electronics and Telecommunications Research Institute, Korea)

Cooperative Spectrum Sensing over Correlated Log-Normal Sensing and Reporting Channels
Marco Di Renzo (University of Edinburgh, UK)
Laura Imbriglio, Fabio Graziosi, Fortunato Santucci
(University of l'Aquila, Italy)

Cooperative Spectrum Sensing with Dynamic Threshold Adaptation
Dae-Young Seol, Hyoung-Jin Lim, Gi-Hong Im
(Pohang University of Science and Technology, Korea)

Quality-of-Service in Cognitive Radio Networks with Collaborative Sensing
Caoxie Zhang, Xinbing Wang, Xinping Guan
(Shanghai Jiao Tong University, China)
Hsiao-Hwa Chen (National Cheng Kung University, Taiwan)

Relay Based Cooperative Spectrum Sensing in Cognitive Radio Networks
Saman Atapattu, Chintha Tellambura, Hai Jiang (University of Alberta, Canada)

A Distributed Beamforming Approach for Enhanced Opportunistic Spectrum Access in Cognitive Radios
Juan Liu, Wei Chen, Zhigang Cao (Tsinghua University, China)
Yingjun (Angela) Zhang (Chinese University of Hong Kong, Hong Kong)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: South Pacific Ballroom 3

WCS-27: MIMO-OFDM

Chair: Guosen Yue (NEC Laboratories America, Inc., USA)

Multilayer Space-Time-Frequency Coding Scheme for MIMO-OFDM
Guosen Yue (NEC Laboratories America, Inc., USA)
Li Zhang (University of California, Davis, USA)
Xiaodong Wang (Columbia University, USA)

A Virtual Layered Space-Frequency Communication Architecture with Iterative Decoding
Jun Imamura, Satoshi Denno, Daisuke Umehara, Masahiro Morikura
(Kyoto University, Japan)

Low-Complexity Algorithm for Log Likelihood Ratios in Coded MIMO-OFDM Communications
Liming Zheng, Jooin Woo, Kazuhiko Fukawa, Hiroshi Suzuki
(Tokyo Institute of Technology, Japan)

Bit-Interleaved Coded Transmission with Multilevel Modulation for MIMO-OFDM Systems
Chan-Ho Choi, Gi-Hong Im
(Pohang University of Science and Technology, Korea)

Iterative Receiver Design with Joint Channel Estimation and Synchronization for Coded MIMO-OFDM over Doubly Selective Channels
Hung Nguyen-Le, Tho Le-Ngoc, Nghi H. Tran (McGill University, Canada)

Slepian-Based Serial Estimation of Time-Frequency Variant Channels for MIMO-OFDM Systems
Pierluigi Salvo Rossi (Second University of Naples, Italy)
Ralf Müller (Norwegian University of Science and Technology, Norway)
Ove Edfors (Lund University, Sweden)

Thursday, 3 December 200 • 10:15 – 12:15
Location: Kahili Suite 2

WCS-28: Power Control

Chair: Norman C. Beaulieu (University of Alberta, Canada)

Dynamic Power Allocation over Block-Fading Channels with Delay Constraint
Ali Sharifkhani, Norman C. Beaulieu (University of Alberta, Canada)

Three-Degree of Freedom Adaptive Power Control for CDMA Cellular Systems
J. C. Agüero, G. C. Goodwin, K. Lau, M. Wang
(University of Newcastle, Australia)
E. I. Silva (Universidad Tecnica Federico Santa Maria, Chile)
T. Wigren (Ericsson AB, Sweden)

Tradeoff Power Control for Cellular Systems
Changho Suh (University of California, Berkeley, USA)
Ali Koc, Shilpa Talwar (Intel, USA)

Distributed Power Control in Femtocell-Underlay Cellular Networks
Vikram Chandrasekhar (Texas Instruments, USA)
Jeffrey G. Andrews (University of Texas, Austin, USA)
Zukang Shen (Datang Mobile Telecommunications Equipment Co. Ltd., USA)
Tarik Muharemovic, Alan Gatherer (Texas Instruments, USA)

Conjectural Equilibrium in Water-filling Games
Yi Su, Mihaela van der Schaar (University of California, Los Angeles, USA)

Analysis and Efficient Computation of Instantaneous Power Distribution of Single-Carrier Signals
Makoto Tanahashi, Hideki Ochiai (Yokohama National University, Japan)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Coral Ballroom 1

WNS-13: Vehicular Ad Hoc Networks

Chair: Soumaya Cherkaoui (University of Sherbrooke, Canada)

Detection of Radio Interference Attacks in VANET
Ali Hamieh, Jalel Ben-othman, (University of Versailles, France)
Lynda Mokdad (University of Paris 12, France)

Competitive Wireless Access for Data Streaming Over Vehicle-to-Roadside Communications
Dusit Niyato (Nanyang Technological University, Singapore)
Ekram Hossain (University of Manitoba, Canada)
Ping Wang (Nanyang Technological University, Singapore)

On a Stochastic Delay Bound for Disrupted Vehicle-to-Infrastructure Communication with Random Traffic
Atef Abdrabou, Weihua Zhuang (University of Waterloo, Canada)

A New Hierarchical and Adaptive Protocol for Minimum-Delay V2V Communication
Mohammed Elbes, Ala Al-Fuqaha, Mohsen Guizani
(Western Michigan University, USA)
Ammar Rayes (Cisco Systems, USA)
Jun Oh (Western Michigan University, USA)

A Mobicast Routing Protocol in Vehicular Ad Hoc Networks
Yuh-Shyan Chen (National Taipei University, Taiwan)
Yun-Wei Lin, SingLing Lee (National Chung Cheng University, Taiwan)

Provisioning of On-demand Services in Vehicular Networks
Etienne Coronado, Soumaya Cherkaoui (University of Sherbrooke, Canada)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Coral Ballroom 2

WNS-14: Cognitive Networking

Chair: Lijun Qian (PrairieView A&M University, USA)

Coexistence Problem in IEEE 802.22 Wireless Regional Area Networks
Raed Al-Zubi, Mohammad Siam, Marwan Krunz (University of Arizona, USA)

On Study of Achievable Capacity with Hybrid Relay in Cognitive Radio Networks
Lei Sun, Wenye Wang (North Carolina State University, USA)

A Rateless Coding based Multi-Relay Cooperative Transmission Scheme for Cognitive Radio Networks
Xijun Wang, Wei Chen, Zhigang Cao (Tsinghua University, China)

Design and Analysis of A Sensing Error-Aware MAC Protocol for Cognitive Radio Networks
Donglin Hu, Shiwen Mao (Auburn University, USA)

A Novel Cognitive Networking Scenario for IEEE 802.16 Networks
Romano Fantacci, Daniele Tarchi (University of Florence, Italy)

Network Selection in Cognitive Radio Systems
Chonggang Wang (NEC Laboratories America, USA)
Kazem Sohraby (University of Arkansas, USA)
Rittwik Jana, Lusheng Ji, Mahmoud Daneshmand
(AT&T Labs Research, USA)

Thursday, 3 December 2009 • 10:15 – 12:15
Location: Coral Ballroom Lounge

WNS-21: Topics in Wireless Networking I (Poster)

Chair: Thierry Gayraud (LAAS-CNRS, Université de Toulouse, France)

Bandwidth Adaptation for Vertical QoS Mapping in Protocol Stacks for Wireless Links
Franco Davoli, Mario Marchese, Maurizio Mongelli (University of Genoa, Italy)

Stochastic Rate Control for Scalable VBR Video Streaming over Wireless Networks
Guang Ji, Ben Liang (University of Toronto, Canada)

Rethinking Thresholds-based Rate Adaptation Algorithms: A Reverse Engineering Perspective
Yang Song (University of Florida, USA)
Xiaoyan Zhu (Xidian University, China)
Yuguang Fang (University of Florida, USA)
Hailin Zhang (Xidian University, China)

An Efficient Hybrid Adaptive Location-aided Gateway Advertisement and Discovery Protocol for Heterogeneous Wireless and Mobile Networks
Azzedine Boukerche, Kaouther Abrougui, Richard W. Pazzi
(University of Ottawa, Canada)

Relative-Closest Connect-First Method For Topology Control in Wireless Mesh Networks
Jun Zhang, Baobing Wang, Xiaohua Jia
(City University of Hong Kong, Hong Kong)

Bayesian-Based Game Theoretic Model to Guarantee Cooperativeness in Hybrid RF/FSO Mesh Networks
Osama Awwad, Ala Al-Fuqaha (Western Michigan University, USA)
Bilal Khan (City University of New York, USA)
Diss Benhaddou (University of Houston, USA)
Mohsen Guizani (Western Michigan University, USA)
Ammar Rayes (Cisco Systems, USA)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Honolulu Suite 1

AHSN-20: Localization II

Chair: R. Michael Buehrer
(Virginia Polytechnic Institute / State University, USA)

Effect of Pivot Nodes Selection Schemes on Self-Localization Performance in a Mobile Sensor Network
Shinsuke Hara, Tatsuya Ishimoto (Osaka City University, Japan)

Error Propagation in Sensor Network Localization with Regular Topologies
Baoqi Huang, Changbin Yu, Brian D. O. Anderson
(Australian National University, Australia)

An Optimization Approach to Single-Source Localization using Direction and Range Estimates
Jesse D. Reed, R. Michael Buehrer, Claudio R. C. M. Da Silva
(Virginia Polytechnic Institute / State University, USA)

Design and Evaluation of a New Localization Scheme for Underwater Acoustic Sensor Networks
Tao Bian, R. Venkatesan, Cheng Li (Memorial University, Canada)

A Graph Embedding Method for Wireless Sensor Networks Localization
Chengqun Wang, Jiming Chen, Youxian Sun (Zhejiang University, China)
Xeumin (Sherman) Shen (University of Waterloo, Canada)

Robust Maximum Likelihood Acoustic Source Localization in Wireless Sensor Networks
Yong Liu
(Northwestern Polytechnical University / University of Wisconsin, China)
Yuhen Hu (University of Wisconsin-Madison, USA)
Quan Pan (Northwestern Polytechnical University, China)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Honolulu Suite 2

AHSN-21: Security I

Chair: TBD

Secure Unified Cellular Ad Hoc Network Routing
Jason J. Haas, Yih-Chun Hu (University of Illinois, Urbana-Champaign, USA)

Channel-Aware Detection of Gray Hole Attacks in Wireless Mesh Networks
Devu Manikantan Shila, Yu Cheng, Tricha Anjali
(Illinois Institute of Technology, USA)

Secure Framework for Voice Transmission over Multipath Wireless Ad Hoc Network
Binod Vaidya (Institute of Telecommunications, Portugal)
Mieso K. Denko (University of Guelph, Canada)
Joel J. C. P. Rodrigues (University of Beira Interior, Portugal)

Tiered Authentication of Multicast Traffic in Wireless Ad Hoc Networks
Mohamed Younis (University of Maryland, Baltimore County, USA)
Osama Farrag (Johns Hopkins University, USA)

An Effective Strategy for Greedy Behavior in Wireless Ad hoc Networks
Soufiene Djahel, Farid Naït-Abdesselam (University of Lille, France)
Damla Turgut (University of Central Florida, USA)

Performance Sensitivities of Wireless Mesh Networks under Path-based DoS Attacks
Avesh K. Agarwal, Wenye Wang (North Carolina State University, USA)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Iolani Suite 5 – 6

CISS-08: Information Hiding and Information Gathering

Chair: Yong Xiang (Deakin University, Australia)

A Novel Pseudonoise Sequence for Time-Spread Echo Based Audio Watermarking
Iynkaran Natgunanathan, Yong Xiang (Deakin University, Australia)

Embedding a Covert Channel in Active Network Connections
Hassan Khan, Yousra Javed, Fauzan Mirza, Syed Ali Khayam
(National University of Sciences & Technology, Pakistan)

Robust Image Data Hiding Using Geometric Mean Quantization
Mohammad Ali Akhaee, Shahrokh Ghaemmaghami, Amir Nikooienejad,
Farokh Marvasti (Sharif University of Technology, Iran)

An Anonymous Communication Mechanism without Key Infrastructure based on Multi-paths Network Coding
Weiping Wang, Guihua Duan, Jianxin Wang (Central South University, China)
Jianer Chen (Texas A&M University, USA)

Using Network Motifs to Identify Application Protocols
Edward G. Allan, Jr., William H. Turkett, Jr., Errin W. Fulp
(Wake Forest University, USA)

A New Data Streaming Method for Locating Hosts with Large Connection Degree
Xiaohong Guan, Pinghui Wang, Tao Qin (Systems Engineering Institution, China)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Kahili Suite 1

CQPRM-10: Service Oriented Networking

Chair: Katsunori Yamaoka (Tokyo Institute of Technology, Japan)

Service Differentiation based on Flexible Time Constraints in Market-Oriented Grids
Rosy Aoun, Maurice Gagnaire (Telecom Paristech, France)

Experimental Evaluation of PCE-Based Batch Provisioning of Grid Service Interconnections
Luca Valcarenghi (Scuola Superiore Sant'Anna, Italy)
Pawel Korus (AGH University of Science and Technology, Poland)
Francesco Paolucci (Scuola Superiore Sant'Anna, Italy)
Filippo Cugini (Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Italy)
Miroslaw Kantor, Krzysztof Wajda
(AGH University of Science and Technology, Poland)
Piero Castoldi (Scuola Superiore Sant'Anna, Italy)

Evaluation of Multi-Point to Single-Point Service Traffic Shaping in an Enterprise Network
Keerthana Boloor (North Carolina State University, USA)
Marcelo Dias de Amorim (UPMC Paris Universitas, France)
Bob Callaway (IBM, USA)
Adolfo Rodriguez (IBM, Duke University, USA)
Ioannis Viniotis (North Carolina State University, USA)

Context-aware Multimedia Processing System in a Pervasive Environment
Zhuzhong Qian (Nanjing University, China)
Song Guo, Minyi Guo (University of Aizu, Japan)
Sanglu Lu (Nanjing University, China)

Design and Configuration of PCN Based Admission Control in Multimedia Aggregation Networks
Steven Latré, Bart De Vleeschauwer, Wim Van de Meerssche, Filip De Turck,
Piet Demeester (Ghent University, Belgium)
Koen De Schepper, Christian Hublet, Wouter Rogiest, Stefan Custers,
Werner Van Leekwijck (Alcatel-Lucent Bell Labs, Belgium)

More Adaptive Robust Stable Routing
Mateusz Zotkiewicz (Warsaw University of Technology, Poland)
Walid Ben-Ameur (TELECOM & Management SudParis, France)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Coral Ballroom Lounge

CQPRM-13: Topics in Communications QoS, Reliability & Performance Modeling II (Poster)

Chair: Nelson L. S. de Fonseca (State University of Campinas, Brazil)

Hybrid Video-Quality-Estimation Model for IPTV Services
Kazuhisa Yamagishi, Taichi Kawano, Takanori Hayashi (NTT, Japan)

A Framework for Modeling the Lifetime and Residual Energy Distribution in Wireless Networks
Krishna Ramachandran, Biplab Sikdar (Rensselaer Polytechnic Institute, USA)

An Optimal Batch Scheduling Algorithm for OBS Networks
Gustavo C. Figueiredo, Eduardo Xavier, Nelson L. S. de Fonseca
(State University of Campinas, Brazil)

Revenue Maximization for Communication Networks with Usage-Based Pricing
Shuqin Li, Jianwei Huang, Shuo-Yen Li
(Chinese University of Hong Kong, Hong Kong)

PEMP: Peering Equilibrium MultiPath Routing
Stefano Secci, Jean-Louis Rougier (Telecom ParisTech, France)
Achille Pattavina (Politecnico di Milano, Italy)
Fioravante Patrone (Università di Genova, Italy)
Guido Maier (Politecnico di Milano, Italy)

Providing End-to-End Statistical Delay Guarantees with Non-Gaussian Input Traffic
Paolo Giacomazzi, Gabriella Saddemi (Politecnico di Milano, Italy)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Sea Pearl Suite 3 – 4

CTS-10: Iterative Detection and Decoding

Chair: Lutz Lampe (University of British Columbia, Canada)

Achievable Rates of Coded Linear Systems with Iterative MMSE Detection
Xiaojun Yuan, Ping Li (City University of Hong Kong, Hong Kong)

EXIT Chart Evaluation of a Receiver Structure for Multi-User Multi-Antenna OFDM Systems
Peter Hammarberg, Fredrik Rusek (Lund University, Sweden)
Pierluigi Salvo Rossi (Second University of Naples, Italy)
Ove Edfors (Lund University, Sweden)

Rateless Codes with Optimum Intermediate Performance
Ali Talari, Nazanin Rahnavard (Oklahoma State University, USA)

Rateless Multilevel Coding and Applications
Trung Thanh Nguyen, Lutz Lampe (University of British Columbia, Canada)

Near-Shannon-Limit Linear-Time-Encodable Nonbinary Irregular LDPC Codes
Jie Huang, Shengli Zhou, Peter Willett (University of Connecticut, USA)

Exploiting Opportunistic Multiuser Detection in Decentralized Multiuser MIMO Systems
Rui Zhang (Institute of Infocomm Research, Singapore)
John M. Cioffi (Stanford University, USA)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Sea Pearl Suite 5 – 6

CTS-11: Relay Networks I

Chair: Martin Haenggi (University of Notre Dame, USA)

Asymptotic Capacity of Large Fading Relay Networks under Random Attacks
Chuan Huang (Texas A&M University, USA)
Jinhua Jiang (Stanford University, USA)
Shuguang Cui (Texas A&M University, USA)

Multihop MIMO Relay Networks with ARQ
Yao Xie (Stanford University, USA)
Deniz Gunduz (Princeton University, USA)
Andrea Goldsmith (Stanford University, USA)

Analog Source Exchange with the Help of a Relay
Tung T. Kim, H. Vincent Poor (Princeton University, USA)

Beamforming in Wireless Relay-Interference Networks with Quantized Feedback
Erdem Koyuncu, Hamid Jafarkhani (University of California, Irvine, USA)

Distributed Averaging in Dense Wireless Networks
Sundaram Vanka, Martin Haenggi, Vijay Gupta
(University of Notre Dame, USA)

Quantization of Channel State Information for Detect-and-Forward Relaying Schemes
Mustapha Benjillali, Leszek Szczecinski (INRS-EMT, Canada)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Lehua Suite

NGNI-08: Session Management

Chair: Jaafar Elmirghani (University of Leeds, UK)

A Method of Constructing QoS Overlay Network and its Evaluation
Ryoichi Kawahara, Satoshi Kamei, Noriaki Kamiyama, Haruhisa Hasegawa, Hideaki Yoshino (NTT, Japan)
Eng Keong Lua (Carnegie Mellon University, USA)
Akihiro Nakao (University of Tokyo, Japan)

Sketch-Based SIP Flooding Detection Using Hellinger Distance
Jin Tang, Yu Cheng, Chi Zhou (Illinois Institute of Technology, USA)

MultiNet: Multiple Virtual Networks for a Reliable Live Streaming Service
Yanfeng Zhang (Northeastern University, China)
Lixin Gao (University of Massachusetts, Amherst, USA)
Cuirong Wang (Northeast University, China)

Queueing strategies for local overload control in SIP server
Rosario G. Garroppo, Stefano Giordano, Stella Spagna
(University of Pisa, Italy)
Saverio Niccolini (NEC Europe Ltd., Germany)

Session Control Cooperating Core and Overlay Networks for "Minimum Core" Architecture
Takayuki Warabino, Yoji Kishi, Hidetoshi Yokota
(KDDI R&D Laboratories, Japan)

Evaluating DoS Attacks Against SIP-Based VoIP Systems
M. Zubair Rafique, Muhammad Ali Akbar, Muddassar Farooq
(nexGIN RC (FAST-NUCES), Pakistan)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Coral Ballroom Lounge

ONS-08: Topics in Optical Networking (Poster)

Chair: Naoaki Yamanaka (Keio University, Japan)

Scheduling Algorithms in LiTPiC – Digital Optical Networks using Light-trails and Photonic Integrated Circuits
Ashwin Gumaste (Indian Institute of Technology, India)
Arun Somani (Iowa State University, USA)

Distributed Routing Path Optimization for OBS Networks based on Ant Colony Optimization
João Pedro (Nokia Siemens Networks S.A., Portugal)
João Pires (Instituto de Telecomunicações/Instituto Superior Técnico, Portugal)
Joao Paulo Carvalho (INESC-id, Portugal)

Design and Experimentation of an Optical-Header Processing and Access Control System for a Packet-Switched WDM Metro Ring Network
Maria C. Yuang (National Chung Tung University, Taiwan)
Ya-Shian Wang (Chunghwa Telecom Co., Ltd., Taiwan)
Lin Yu-Min (Industrial Technology Research Institute, Taiwan)

Emulation of Optical PIFO Buffers
Houman Rastegarfar, Monia Ghobadi, Yashar Ganjali
(University of Toronto, Canada)

Altering Grooming Decisions to Enhance p-Cycle Design Efficiency
Diane Prisca Onguetou, Wayne D. Grover (University of Alberta, Canada)

ONU Placement in Fiber-Wireless (FiWi) Networks Considering Peer-to-Peer Communications
Zeyu Zheng, Jianping Wang (City University of Hong Kong, Hong Kong)
Xiumin Wang (University of Science and Technology of China, China)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Sea Pearl Suite 1 – 2

SAC(CRN)-08: Cooperation in Cognitive Radio Networks II

Chair: Mainak Chatterjee (University of Central Florida, USA)

Cooperative Quickest Spectrum Sensing in Cognitive Radios with Unknown Parameters
Sepideh Zarrin, Teng Joon Lim (University of Toronto, Canada)

Cooperative Covariance and Eigenvalue Based Detections for Robust Sensing
Yonghong Zeng, Ying-Chang Liang
(Institute for Infocomm Research, Singapore)
Edward C. Y. Peh (Nanyang Technological University, Singapore)
Anh Tuan Hoang (Institute for Infocomm Research, Singapore)

Misbehaviour Detection in Cognitive and Cooperative Networks
Lorenza Giupponi, Christian Ibars
(Centre Tecnologic de Telecomunicacions de Catalunya, Spain)

A Novel Spectrum Sharing Technique based on Channel Occupancy Rate Information
Kenta Umebayashi, Kohei Kasahara, Yukihiro Kamiya, Yasuo Suzuki
(Tokyo University of Agriculture and Technology, Japan)

Optimal Linear Soft Fusion Schemes for Cooperative Sensing in Cognitive Radio Networks
Bin Shen, Kyungsup Kwak (Inha University, Korea)
Zhiquan Bai (Shadong University, China)

Bargaining to Improve Channel Sharing between Selfish Cognitive Radios
Hua Liu (University of Southern California, USA)
Allen B. MacKenzie (Virginia Polytechnic Institute / State University, USA)
Bhaskar Krishnamachari (University of Southern California, USA)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Iolani Suite 1 – 2

SPC-08: SIMO, MISO and MIMO Systems I

Chairs: Jinho Choi (Swansea University, UK)
Tomohiko Taniguchi (Fujitsu Laboratories Ltd., Japan)

Analytical Comparison of Power Allocation Methods in MIMO Systems with Singular Value Decomposition
Alberto Zanella (WiLab/IEIIT-BO CNR, Italy)
Marco Chiani (WiLab/DEIS University of Bologna, Italy)

On the Relation of MIMO APP Detection and SIMO Maximum Ratio Combining
Andreas Ibing, David Kühling, Holger Boche (Fraunhofer Institute for Telecommunications, Heinrich-Hertz Institut, Germany)

An Efficient Parallel Algorithm with Partial Decision Feedback for Near-Optimal MIMO Detection
Cong Xiong, Xin Zhang, Kai Wu, Dacheng Yang
(Beijing University of Posts and Telecommunications, China)

An Efficient Adaptive Frequency Diversity Scheme for IEEE 802.11n Networks
Felip Riera-Palou, Guillem Femenias (University of the Balearic Islands, Spain)

Low Complexity SIC-based MIMO Detection with List Generation In The LR Domain
Jinho Choi (Swansea University, UK)
Huan X. Nguyen (Glasgow Caledonian University, UK)

Simplified Maximum-Likelihood Precoder Selection for Limited Feedback Spatial Multiplexing Systems
Jong-Ho Lee (Georgia Institute of Technology, USA)
Sung-yoon Jung (Yeungnam University, Korea)
Daeyoung Park (Inha University, Korea)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Iolani Suite 3 – 4

SPC-09: Transmitter and Receiver Techniques I

Chairs: Guido Dietl (DOCOMO Euro-Labs, Germany)
Tomohiko Taniguchi (Fujitsu Laboratories Ltd., Japan)

Least Squares Estimation for the Digital Compensation of Tx Leakage in zero-IF Receivers
Andreas Frotzscher, Gerhard Fettweis
(Technische Universität Dresden, Germany)

A Reduced-complexity MIMO Receiver via Channel Ordering
Boon Sim Thian, Andrea Goldsmith (Stanford University, USA)

Multi-window Spectrum Sensing of Unsynchronized OFDM Signal at Very Low SNR
Cong Wang, Xianbin Wang, Hao Li (University of Western Ontario, Canada)
Paul Ho (Simon Fraser University, Canada)

Design of Low Hardware Complexity Filter Banks for Communications Systems Employing Folding Number System
Duc-Minh Pham, A. B. Premkumar, A. S. Madhukumar
(Nanyang Technological University, Singapore)

Exploiting the Diversity Gain of Transmitter I/Q Imbalance in Single-Antenna OFDM Systems
Edward K. S. Au (Huawei Technologies, China)
Zhongding Lei, Francois Chin (Institute for InfoComm Research, Singapore)

Performance of Ultralow-power IR-UWB Correlator Receivers for Highly Accurate Wearable Human Locomotion Tracking and Gait Analysis Systems
Heba Shaban (Virginia Polytechnic Institute / State University, Egypt)
Mohamad Abou El-Nasr (Arab Academy for Science and Technology, Egypt)
R. Michael Buehrer (Virginia Polytechnic Institute / State University, USA)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: South Pacific Ballroom 1

WCS-29: Cooperative Communication: Performance Analysis

Chair: Are Hjørungnes (University of Oslo, Norway)

Exact Capacity Analysis of Rate Adaptive, Power Nonadaptive, Multibranch, Multihop, Decode-and-Forward Relaying Networks
Reza Nikjah, Norman C. Beaulieu (University of Alberta, Canada)

Exact Closed-Form Expressions for the Outage Probability and Ergodic Capacity of Decode-and-Forward Opportunistic Relaying
Reza Nikjah, Norman C. Beaulieu (University of Alberta, Canada)

Performance Analysis of Incremental-Best-Relay Amplify-and-Forward Technique
Salama S. Ikki, Murat Uysal (University of Waterloo, Canada)
Mohamed H. Ahmed (Memorial University, Canada)

Performance Analysis of Incremental-Relay-Selection Decode-and-Forward Technique
Salama S. Ikki, Murat Uysal (University of Waterloo, Canada)
Mohamed Ahmed (Memorial University, Canada)

SER Performance Analysis for Physical Layer Network Coding over AWGN Channel
Kejie Lu (University of Puerto Rico, Mayaguez, Puerto Rico)
Shengli Fu (University of North Texas, USA)
Yi Qian (National Institute of Standards and Technology, USA)
Hsiao-Hwa Chen (National Cheng Kung University, Taiwan)

Performance Analysis of Physical Layer Network Coding in Two-Way Relay Channels
Raymond H. Y. Louie, Yonghui Li, Branka Vucetic (University of Sydney, Australia)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: South Pacific Ballroom 2

WCS-30: Spectrum Sharing

Chair: Xianbin Wang (University of Western Ontario, Canada)

Power Allocation for OFDM-Based Cognitive Radio Systems with Hybrid Protection to Primary Users
Xin Kang, Hari Krishna Garg (National University of Singapore, Singapore)
Ying-Chang Liang, Rui Zhang (Institute of Infocomm Research, Singapore)

Cognitive Radio Enhancements for Legacy Networks using Cooperative Diversity
Zhanwei Sun (University of Notre Dame, USA)
Ioannis Krikidis (University of Edinburgh, UK)
J. Nicholas Lanaman (University of Notre Dame, USA)
John S. Thompson (University of Edinburgh, UK)

An Auction-Based Incentive Mechanism for Non-Altruistic Cooperative ARQ via Spectrum-Leasing
Igor Stanojev (Politecnico di Milano, Italy)
Osvaldo Simeone (New Jersey Institute of Technology, USA)
Umberto Spagnolini (Politecnico di Milano, Italy)
Yeheskel Bar-Ness (New Jersey Institute of Technology, USA)
Raymond L. Pickholtz (George Washington University, USA)

Centralized Inter-Network Spectrum Sharing with Opportunistic Frequency Reuse
Wei Ni, Iain B. Collings
(Commonwealth Scientific and Industrial Research Organization, Australia)

A Game Theoretic Approach to Multi-User Spectrum Allocation
Peter von Wrycza, M. R. Bhavani Shankar, Mats Bengtsson, Björn Ottersten
(Royal Institute of Technology, Sweden)

Opportunistic Exploitation of Bandwidth Resources through Reinforcement Learning
Bechir Hamdaoui, Pavithra Venkatraman (Oregon State University, USA)
Mohsen Guizani (Western Michigan University, USA)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: South Pacific Ballroom 3

WCS-31: OFDM

Chair: Hlaing Minn (University of Texas, Dallas, USA)

Subchannel Allocation in Relay-Enhanced OFDMA Downlink With Imperfect Feedback
Juoko Leinonen (University of Oulu, Finland)
Taneli Riihonen, Jyri Hämäläinen (Helsinki University of Technology, Finland)
Markku Juntti (University of Oulu, Finland)

A Novel Iterative Decision-Directed Differential Detection Technique For Differential OFDM Systems
Liang Zhang, Louis Thibault, Zhihong Hong
(Communications Research Centre, Canada)

Optimal Pilot Power Allocation for OFDM Systems with Transmitter and Receiver IQ Imbalances
V. K. Varma Gottumukkala, Hlaing Minn (University of Texas, Dallas, USA)

Effect of Nonlinear Amplifier in Companded OFDM with Application to 802.11n WLAN
David W. Chi, Pankaj Das (University of California, San Diego, USA)

Low Complexity Semi-blind Bayesian Iterative Receiver for MIMO-OFDM Systems
Chun-lin Xiong, Xin Wang, Degang Wang, Ji-Bo Wei
(National University of Defense Technology, China)

A Theoretical Treatment of PA Power Optimization in Clipped MIMO-OFDM Systems
Hun Seok Kim, Babak Daneshrad (University of California, Los Angeles, USA)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Kahili Suite 2

WCS-32: Space-time Coding

Chair: John Barry (Georgia Institute of Technology, USA)

Unitary Space-Time Modulation for Single-Carrier Transmission over Frequency-Selective Channels
Der-Feng Tseng (National Taiwan University of Science and Technology, Taiwan)

Transmit Diversity Scheme over Single SC-FDM Symbol for LTE-Advanced
Xiliang Luo, Peter Gaal, Wanshi Chen, Xiaoxia Zhang, Juan Montojo
(Qualcomm Inc., USA)

Bandwidth Efficient Block Spreading Linear Dispersion Codes in Frequency Selective Fading Channels
Yue Wang, Justin P. Coon (Toshiba Research Europe Limited, UK)

A Systematic Design of Space-Time Block Codes Achieving Full-Diversity with Partial Interference Cancellation Group Decoding
Wei Zhang (University of New South Wales, Australia)
Xiang-Gen Xia (University of Delaware, USA)

Embedded Orthogonal Space-Time Codes for High Rate and Low Decoding Complexity
Mohanned Sinnokrot, John R. Barry, Vijay K. Madisetti
(Georgia Institute of Technology, USA)

A Simple Design of Space-Time Block Codes Achieving Full Diversity with Linear Receivers
Huiming Wang (Xi'an Jiaotong University, China)
Xiang-Gen Xia (University of Delaware, USA)
Qinye Yin (Xi'an Jiaotong University, China)
Bin Li (Huwei Technologies, China)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Honolulu Suite 3

WNS-15: Medium Access Control

Chair: Mehmet Can Vuran (University of Nebraska-Lincoln, USA)

FD-MAC: A Flow-Driven MAC Protocol for Mobile Ad Hoc Networks
Hai Wang, Shiying Tan
(Nanjing Institute of Communications Engineering, China)
Jun Zheng (Southeast University, China)

LA-MAC: A Load Adaptive MAC Protocol for MANETs
Weihong Hu, Xiaolong Li, Homayoun Yousefi'zadeh
(University of California, Irvine, USA)

Robust Cooperative Relaying in a Wireless LAN: Cross-layer Design and Performance Analysis
Pei Liu, Chun Nie, Elza Erkip, Shivendra Panwar
(Polytechnic Institute of New York University, USA)

Cooperative Content Distribution in Multi-Rate Wireless Networks
Eric M. K. Lo, Jin Zhang, Qian Zhang
(Hong Kong University of Science and Technology, Hong Kong)

A Distributed Contention Resolution Algorithm in Multi-packet Reception ALOHA systems
Jun Bae Seo, Victor C. M. Leung (University of British Columbia, Canada)

Fairness Index Based on Variational Distance
Jing Deng (University of North Carolina, Greensboro, USA)
Yunghsiang Han (National Taipei University, Taiwan)
Ben Liang (University of Toronto, Canada)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Coral Ballroom 1

WNS-16: Localization and Location Tracking

Chair: Athanassios Manikas (Imperial College London, UK)

Indoor Localization Using Improved RSS-Based Lateration Methods
Jie Yang, Yingying Chen (Stevens Institute of Technology, USA)

Site-Specific RSS Signature Modeling for WiFi Localization
Brian Roberts, Kaveh Pahlavan (Worcester Polytechnic Institute, USA)

Improving Neighbor Localization in Vehicular Ad Hoc Networks to Avoid Overhead from Periodic Messages
Azzedine Boukerche, Cristiano Rezende, Richard Pazzi
(University of Ottawa, Canada)

A P2P Location Calibration Mechanism in Wireless Network
Jianfeng Chen, Xiaojun Ma (Thomas Broadband R&D Co. Ltd, China)

Location Prediction Model Based on Bayesian Network Theory
Yucheng Zhang, Jinglong Hu (Institute of Computing Technology, China)
Jiangtao Dong (54th Research Institute of CETC, China)
Yao Yuan (Institute of Computing Technology, China)
Jihua Zhou (Chongqing Jinmei Communication Co. Ltd., China)
Jinglin Shi (Institute of Computing Technology, China)

Fault-Tolerant Prediction-based Scheme for Target Tracking Application
Oualid Demigha (Polytechnic Military School, Algeria)
Nadjib Badache
(Houari Boumediene University of Sciences and Technology, Algeria)
Mohamed Aissani, Abdelhamid Mellouk (LiSSi Laboratory, France)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Coral Ballroom 2

WNS-17: Wireless PANs and Wireless Sensor Networks

Chair: Gianluigi Ferrari (University of Parma, Italy)

End-to-End Delay and Network Lifetime Analysis in a Wireless Sensor Network Performing Data Aggregation
Laura Galluccio, Sergio Palazzo (University of Catania, Italy)

Maximizing Lifetime of Sensor-Target Surveillance in Wireless Sensor Networks
Hai Liu, Xiaowen Chu, Yiu-Wing Leung
(Hong Kong Baptist University, Hong Kong)
Xiaohua Jia (City University of Hong Kong, Hong Kong)
Peng-Jun Wan (Illinois Institute of Technology, USA)

Lifetime Maximization in Wireless Sensor Networks with an Estimation Mission
Iordanis Koutsopoulos (University of Thessaly, Greece)
Maria Halkidi (University of Piraeus, Greece)

Dynamic Reconfiguration in Beaconless IEEE 802.15.4 Networks under Varying Traffic Loads
Dawn Rohm, Mukul Goyal, Weigao Xie, Balaji Polepalli, Hossein Hosseini
(University of Wisconsin-Milwaukeee, USA)
August Divjak, Yusuf Bashir (Johnson Controls Inc, USA)

A Simulation Study of CSMA/CA Performance in 60 GHz WPANs
Wei Zhou (Iowa State University, USA)
Saishankar Nandagopalan (Broadcom, USA)
Daji Qiao (Iowa State University, USA)

Beam Codebook Based Beamforming Protocol for Multi-Gbps Millimeter-Wave WPAN Systems
Junyi Wang, Zhou Lan, Chang-Woo Pyo, Tuncer Baykas, Chin-Sean Sum, M. Azizur Rahman, Ryuhei Funada, Fumihide Kojima
(National Institute of Information & Communications Technology, Japan)
Ismail Lakkis (Tensorcom, Japan)
Hiroshi Harada, Shuzo Kato
(National Institute of Information & Communications Technology, Japan)

Thursday, 3 December 2009 • 14:00 – 16:00
Location: Coral Ballroom Lounge

WNS-22: Topics in Wireless Networking II (Poster)

Chair: Shiwen Mao (Auburn University, USA)

Congestion Relief in CDMA Cellular Networks using Multihop Inter-cell Relay
Ayman Radwan, Hossam S, Hassanein (Queen's University, Canada)

Towards Efficient and Secure Rekeying for IEEE 802.16e WiMAX Networks
Jeremy Brown (North Dakota State University, USA)
Xiaojiang Du (Temple University, USA)

To Do or Not to Do: Metadata-guided Query Evaluation in Content Caching Networks
Hui Wang, Ruilin Liu, Xiuyuan Zheng, Yingying Chen, Hongbo Liu
(Stevens Institute of Technology, USA)

Price War with Partial Spectrum Sharing for Competitive Wireless Service Providers
Patrick Maillé (Telecom Bretagne, France)
Bruno Tuffin (INRIA Rennes, France)

TAS Protocols of a PASD System with Limited Feedback Information
Sang Joon Kim (Harvard University, USA)
Saeed Ghassemzadeh, Robert Miller (AT&T Labs - Research, USA)
Vahid Tarokh (Harvard University, USA)

A Distributed Constraint Satisfaction Problem for Virtual Device Composition in Mobile Ad Hoc Networks
Eric Karmouch, Amiya Nayak (University of Ottawa, Canada)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Honolulu Suite 1

AHSN-22: Security II

Chair: Dijiang Huang (Arizona State University, USA)

MPC: Mitigating Stealthy Power Control Attacks in Wireless Ad Hoc Networks
Issa Khalil (United Arab Emirates University, UAE)

Tame Pool-based Pairwise Key Predistribution for Large-scale Sensor Networks
Yen-Hua Liao (National Chengchi University, Taiwan)

Intrusion Detection in Gaussian Distributed Heterogeneous Wireless Sensor Networks
Yun Wang (University of Cincinnati, USA)
Chin-Laung Lei, Ai-Nung Wang (National Taiwan University, Taiwan)
Wen-Chi Tsai (National Chengchi University, Taiwan)

CAT: Building Couples to Early Detect Node Compromise Attack in Wireless Sensor Networks
Xiaodong Lin (University of Ontario Institute of Technology, Canada)

On The Connectivity of Key-Distribution Strategies in Wireless Sensor Networks
H. Shafiei (IPM, Iran)
Ahmad Khonsari (University of Tehran, Iran)
Mohammad S. Talebi (IPM, Iran)
Mohamed Ould-Khaoua (Sultan Qaboos University, Oman)
Nazanin Dehghani (University of Tehran, Iran)

Distributed Data-theft Detection in Wireless Sensor Networks
Mukesh Jagasia, Dijiang Huang (Arizona State University, USA)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Honolulu Suite 2

AHSN-23: Topology Management

Chair: Stefano Basagni (Northeastern University, USA)

An Adaptive Self-Organizing Protocol with Multiple Stages for Wireless Mesh Networks
Martin Krebs, Markus Kucay (RWTH Aachen University, Germany)

Energy-aware Self-adjusted Topology Control Algorithm for Heterogeneous Wireless Ad Hoc Networks
Ye Tian, Min Sheng, Jian-Dong Li, Yan Zhang (Xidian University, China)

Multiobjective K-connected Deployment and Power Assignment in WSNs using Constraint Handling
Andreas Konstantinidis, Kun Yang, Qingfu Zhang (University of Essex, UK)
Fernando Gordejuela-Sanchez (University of Bedfordshire, UK)

Collaborative Pairwise Detection Schemes for Improving Coverage in WSNs
Michalis P. Michaelides, Christos G. Panayiotou
(University of Cyprus, Cyprus)

A Mapping of Wireless Network Boundaries using Localised Alpha-Shapes
Marwan Fayed, Hussein Mouftah (University of Ottawa, Canada)

Increased Connectivity at Lower Cost: The Case for Multi-radio Nodes in Multi-hop Wireless Networks
Stefano Basagni (Northeastern University, USA)
Andras Farago (University of Texas, Dallas, USA)
Maurizio A. Nanni (Northeastern University, USA)
Dung T. Tran (University of Texas, Dallas, USA)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Kahili Suite 1

CQPRM-11: Next Generation Wireless Networks Performance

Chair: Michael Devetsikiotis
(North Carolina State University, USA)

Optimal Resource Scheduling in Wireless Multi-Service Systems with Random Channel Connectivity
Hussein Al-Zubaidy, Ioannis Lambadaris (Carleton University, Canada)
Ioannis Viniotis (North Carolina State University, USA)

Uplink Capacity of 802.16j Mobile Multihop Relay Networks with Transparent Relays
Hua Wang (Technical University of Denmark, Denmark)
Jeffrey G. Andrews (University of Texas, Austin, USA)
Villy B. Iversen (Technical University of Denmark, Denmark)

On the Design of Bi-connected Wireless Mesh Network Infrastructure with QoS Constraints
Djohara Benyamina, Abdelhakim Hafid, Michel Gendreau
(University of Montreal, Canada)

VoIP Capacity over PCF with Imperfect Channel
Md. Atiur Rahman Siddique, Joarder Kamruzzaman
(Monash University, Australia)

Optimizing Power Utilization in Vehicular Ad Hoc Networks through Angular Routing: A Protocol and its Performance Evaluation
Sudip Misra (Indian Institute of Technology, India)
Sanjay K. Dhurandher (University of Delhi, India)
Mohammad S. Obaidat (Monmouth University, USA)
Mukta Gupta, Khushboo Diwakar, Pooja Gupta (University of Delhi, India)

Performance Modeling for Heterogeneous Wireless Networks with Multiservice Overflow Traffic
Qian Huang, King-Tim Ko (City University of Hong Kong, Hong Kong)
Villy B. Iversen (Technical University of Denmark, Denmark)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Sea Pearl Suite 3 – 4

CTS-12: MIMO and Space-Time Coding

Chair: Oussama Damen (University of Waterloo, Canada)

STBCs with Reduced Sphere Decoding Complexity for Two-User MIMO-MAC
Jagadeesh Harshan, B. Sundar Rajan (Indian Institute of Science, India)

Efficient Soft-Output Demodulators for the Golden Code
Narayan Prasad, Meilong Jiang (NEC Labs, USA)
Xiaodong Wang (Columbia University, USA)

Kalman Filter-Based Channel Tracking in MIMO-OSTBC Systems
Murilo B. Loiola, Renato Lopes, João Romano (Unicamp, Brazil)

Performance Analysis of Channel Inversion over MIMO Channels
Damith Senaratne, Chintha Tellambura (University of Alberta, Canada)

Gaussian MIMO Multi-receiver Wiretap Channel
Ersen Ekrem, Sennur Ulukus (University of Maryland, USA)

On Downlink Network MIMO under a Constrained Backhaul and Imperfect Channel Knowledge
Patrick Marsch, Gerhard Fettweis (Technische Universität Dresden, Germany)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Sea Pearl Suite 5 – 6

CTS-13: Relay Networks II

Chair: Mustafa Cenk Gursoy (University of Nebraska-Lincoln, USA)

Optimum/Sub-Optimum Detection for Multi-Branch Cooperative Diversity Networks with Limited CSI
Peng Liu, Il-Min Kim (Queen's University, Canada)

Precoder Design for Correlated Multi-Antenna Cooperative Systems with Partial Decode and Forward Protocol and MMSE-SIC Receivers
Shunqing Zhang, Eddy Chiu, Vincent K. N. Lau
(Hong Kong University of Science and Technology, Hong Kong)

Performance of Asynchronous Amplify-and-Forward Cooperative Relay Networks
Michel Nahas, Ahmed Saadani (Orange Labs, France)
Walid Hachem (National Center for Scientific Research, France)

Multiple Relay Channels With Delays: With and Without Side Information
Mohammad Bagher Iraji, Reza Khosravi-Farsani, Mohammad Reza Aref
(Sharif University of Technology, Iran)

Superimposed XOR: A New Physical Layer Network Coding Scheme for Two-Way Relay Channels
Jianquan Liu, Meixia Tao, Youyun Xu (Shanghai Jiaotong University, China)
Xiaodong Wang (Columbia University, USA)

Randomization for Security in Half-Duplex Two-Way Gaussian Channels
Aly El Gamal, Moustafa Youssef (Nile University, Egypt)
Hesham El Gamal (Ohio State University, USA)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Sea Pearl Suite 1 – 2

NGNI-09: Splicing, Bandwidth and Congestion Control

Chair: Stefano Giordano (University of Pisa, Italy)

On the Safety and Security of Path Splicing: A Case Study for Path Splicing on the GÉANT Network
Christopher Page, Mina Guirguis (Texas State University, USA)

S-XCP: Improving XCP to Achieve Efficient and Fair Bandwidth Allocation
Hairui Zhou, Guanzhong Dai (Northwestern Polytechnical University, China)
Fanghong Ye (Muenster University, Germany)
Huixiang Zhang (Northwestern Polytechnical University, China)

General Congestion Control for High Bandwidth-Delay Product Networks
Chengnian Long, Xudong Chai, Xinping Guan
(Shanghai Jiao Tong University, China)
Qian Zhang (Hong Kong University of Science and Technology, Hong Kong)

Delay-based Cloud Congestion Control
Mitchell Gusat (IBM, Switzerland)
Robert Birke (Politecnico di Torino, Italy)
Cyriel Minkenberg (IBM, Switzerland)

Predicting Available Bandwidth of Internet Path with Ultra Metric Space-based Approaches
Changyou Xing, Ming Chen, Li Yang
(PLA University of Science and Technology, China)

Path Splicing with Guaranteed Fault Tolerance
Thomas Erlebach (University of Leicester, UK)
Anna Mereu (University of Cagliari, Italy)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Lehua Suite

NGNI-10: Wireless & Mobility

Chair: Chonggang Wang (NEC Laboratories America, USA)

Receiver-Driven Queue Management for Achieving RTT-fairness in Wi-Fi Networks
Dzmitry Kliazovich (University of Trento, Italy)
Pedro Henrique Gomes (State University of Campinas, Brazil)
Fabrizio Granelli (University of Trento, Italy)
Nelson L. S. de Fonseca (State University of Campinas, Brazil)

Preventing Unauthorized Messages in DTN Based Mobile Ad hoc Networks
Hany Samuel, Weihua Zhuang (University of Waterloo, Canada)

A Game-Theoretic Framework for Intra-ONU Scheduling in Integrated EPON/WiMAX Networks
Hui-Tang Lin, Ying-You Lin (National Cheng Kung University, Taiwan)
Wang-Rong Chang (Industrial Technology Research Institute-South, Taiwan)
Song-Ming Chen (National Cheng Kung University, Taiwan)

A Weighted Bipartite Graph Based Network Selection Scheme for Multi-Flows in Heterogeneous Wireless Network
Yucheng Zhang, Yao Yuan (Institute of Computing Technology, China)
Jihua Zhou (Chongqing Jinmei Communication Co. Ltd., China)
Jinglong Hu (Institute of Computing Technology, China)
Jiangtao Dong (54th Research Institute of CETC, China)
Jinglin Shi (Institute of Computing Technology, China)

Integrated BS/ONU Placement in Hybrid EPON-WiMAX Access Networks
Yu Liu, Chi Zhou, Yu Cheng (Illinois Institute of Technology, USA)

On the Merits of Migrating to a Fully Packet-Based Mobile Backhaul RAN Infrastructure
Sherif Sherif (City University of New York, USA)
Georgios Ellinas (University of Cyprus, Cyprus)
Antonis Hadjiantonis (University of Nicosia, Cyprus)
Roger Dorsinville, Mohamed Ali (City University of New York, USA)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Iolani Suite 1 – 2

SPC-10: SIMO, MISO and MIMO Systems II

Chairs: Tiffany Jing Li (Lehigh University, USA)
Hsiao-Chun Wu (Louisiana State University, USA)

Near-Capacity Iteratively Decoded Markov-Chain Monte-Carlo Aided BLAST System
Wei Liu, Lingkun Kong, Soon Xin Ng (University of Southampton, UK)
Jian-Dong Li (Xidian University, China)
Lajos Hanzo (University of Southampton, UK)

Iteratively Detected Three-Stage Multi-Dimensional Sphere Packing Modulation Aided Multi-Functional MIMO
Mohammed El-Hajjar, Osamah Alamri, Lajos Hanzo
(University of Southampton, UK)

Statistical Characterization of Power Amplifier Nonlinearity at 60 GHz: MIMO Beam-forming Analysis
Navid Lashkarian (San Jose State University, USA)
Babak Heydari (University of California, Berkeley, USA)
Payman Jula (Simon Fraser University, Canada)

On the Performance of Adaptive Decode-and-Forward Cooperative Diversity with the Nth Best-Relay Selection Scheme
Salama S. Ikki (University of Waterloo, Canada)
Mohamed H. Ahmed (Memorial University, Canada)

A Low-Complexity SLM PAPR Reduction Scheme for Interleaved OFDMA Uplink
Sen-Hung Wang, Jia-Cheng Xie, Chih-Peng Li
(National Sun Yat-Sen University, Taiwan)

Optimizing Training-based Transmission for Correlated MIMO Systems with Hybrid Feedback
Xiangyun Zhou, Tharaka A. Lamahewa, Parastoo Sadeghi, Salman Durrani
(Australian National University, Australia)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Iolani Suite 3 – 4

SPC-11: Transmitter and Receiver Techniques II

Chairs: Xianbin Wang (University of Western Ontario, Canada)
Tomohiko Taniguchi (Fujitsu Laboratories Ltd., Japan)

Searching in the Delta Lattice: An Efficient MIMO Detection for Iterative Receivers
I-Wei Lai, Chun-Hao Liao, Martin Witte, David Kammler, Filippo Borlenghi, Konstantinos Nikitopoulos, Venkatesh Ramakrishnan, Dan Zhang
(Institute for Integrated Signal Processing Systems, Germany)
Tzi-Dar Chiueh (National Taiwan University, Taiwan)
Gerd Ascheid, Heinrich Meyr
(Institute for Integrated Signal Processing Systems, Germany)

Iterative Receiver Techniques for SC-FDMA Uplink Block Transmission: Design and Performance Evaluation
Luis Charrua, Paulo Torres, Victor Gonçalves, A. Gusmão
(Technical University of Lisbon, Portugal)

A Novel Synchronization Algorithm Dispensing with Searching for UWB Signals
Zhiyuan Ren, Tiejun Lv (Beijing University of Posts & Telecommunications, China)

Soft Decision Aided Suboptimal ML Detection Receiver for Clipped COFDM Transmissions
Romain Déjardin, Maxime Colas, Guillaume Gelle (CReSTIC – SysCom, France)

SNR Estimation for a Non-Coherent Binary Frequency Shift Keying Receiver
Syed Ali Hassan, Mary Ann Ingram (Georgia Institute of Technology, USA)

Bayesian Robust Linear Transceiver Design for Dual-Hop Amplify-and-Forward MIMO Relay Systems
Chengwen Xing, Shaodan Ma, Yik-Chung Wu
(University of Hong Kong, Hong Kong)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Iolani Suite 5 – 6

SPC-12: Signal Detection and Synchronization II

Chairs: Tadashi Fujino (University of Electro-Communications, Japan)
Hsiao-Chun Wu (Louisiana State University, USA)

Near-Optimal Detection in MIMO Systems using Gibbs Sampling
Morten Hansen (Technical University of Denmark, Denmark)
Babak Hassibi, Alexandros Dimakis, Weiyu Xu
(California Institute of Technology, USA)

A Gram-Schmidt Based Lattice-Reduction Aided MMSE Detection in MIMO Systems
Tadashi Fujino, Shinjiro Wakazono, Yusuke Sasaki
(University of Electro-Communications, Japan)

Implementation of a High-throughput and Area-efficient MIMO Detector Based on Modified Dijkstra's Search
Tae-hwan Kim, In-Cheol Park
(Korea Advanced Institute of Science and Technology, Korea)

Optimal Detector for Multitaper Spectrum Estimator in Cognitive Radios
Tsung-Wei Chiang, Jung-Mao Lin, Hsi-Pin Ma
(National Tsing Hua University, Taiwan)

On the Optimality of Timing with Dirty Templates
Wei Zang, Wenshu Zhang, Liuqing Yang (University of Florida, USA)

Hybrid MIMO Receiver using QR-MLD and QR-MMSE
Youngjae Kim, Jong Hyeon Park, Je Woo Kim (Qualcomm Inc., USA)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: South Pacific Ballroom 1

WCS-33: Joint Source and Channel Coding

Chair: Claudio Silva (Virginia Polytechnic Institute / State University, USA)

Distributed Joint Source-Channel coding for Functions over a Multiple Access Channel
R. Rajesh, Vinod Sharma (Indian Institute of Science, India)

Joint Source-Channel Coding over a Fading Multiple Access Channel with Partial Channel State Information
R. Rajesh, Vinod Sharma (Indian Institute of Science, India)

Motion-compensated Scalable Video Transmission over MIMO Wireless Channels under Imperfect Channel Estimation
Hobin Kim (University of California, San Diego, USA)
Sun Yong Kim (Konkuk University, Korea)
Pamela C. Cosman, Laurence B. Milstein
(University of California, San Diego, USA)

Progressive Source Transmissions using Joint Source-Channel Coding and Hierarchical Modulation in Packetized Networks
Suayb S. Arslan, Pamela C. Cosman, Laurence B. Milstein
(University of California, San Diego, USA)

Robust Transmission of H.264 Coded Video Using Three-Stage Iterative Joint Source and Channel Decoding
Nasruminallah Nasruminallah, Mohammed El-Hajjar, Lajos Hanzo
(University of Southampton, UK)

Unequal Power Allocation for Transmission of JPEG2000 Images over Wireless Channels
Mahin Torki, Atousa HajshirMohammadi (Simon Fraser University, Canada)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: South Pacific Ballroom 2

WCS-34: Network Coding

Chair: Hai Jiang (University of Alberta, Canada)

A Joint Interchannel and Network Coding Schema for nVoD Services over Wireless Mesh Networks
Rafael Asorey-Cacheda (Universidad de Vigo, Spain)
Hong Huang (New Mexico State University, USA)
Francisco Javier González-Castaño (Universidad de Vigo, Spain)
Eric Johnson (New Mexico State University, USA)
Cristina López-Bravo, Felipe Gil-Castiñeira (Universidad de Vigo, Spain)

XOR-Forwarding for Wireless Networks
Hsiang-Po Wang, Yi-Ta Chuang, Chih-Wei Yi, Yu-Chee Tseng
(National Chiao-Tung University, Taiwan)
Pin-Chuan Liu (Industrial Technology Research Institute, Taiwan)

On Performance of Multi-Timeslots Network Coding (MTNC) in Wireless Relay Networks
Hongmei Liu, Gang Chuai, Wei Bao, Mugen Peng, Wenbo Wang
(Beijing University of Posts and Telecommunications, China)

Analysis and Optimization for Multicast System with Regenerative Network Coding
Jun Li, Mingli You, Lin Yang (Alcatel Lucent Shanghai Bell, China)

Outage Probability Analysis of Linear Block Network Coding (LBNC) in Wireless Relay Networks
Wei Bao, Wenbo Wang, Hongmei Liu, Mugen Peng
(Beijing University of Posts and Telecommunications, China)

Constellation Selection in Network Coded Distributive Antenna System
Tafzeel ur Rehman Ahsin, Slimane Ben Slimane
(Royal Institute of Technology, Sweden)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: South Pacific Ballroom 3

WCS-35: Diversity Techniques

Chair: Hamid Jafarkhani (University of California, Irvine, USA)

Predictive Transmit Antenna Selection with Maximal Ratio Combining
Shiva Prakash, Ian McLoughlin
(Nanyang Technological University, Singapore)

Antenna Diversity for a Mobile Terminal: Theory, Simulation and Measurement
Bin Guo (Illinois Institute of Technology, USA)
Omid Sotoudeh (Sony Ericsson Mobile Communication, Sweden)
Chi Zhou, Yu Cheng (Illinois Institute of Technology, USA)

Exploiting the Interference Diversity Gain in Frequency Domain: The UMTS LTE Scenario
Alireza Attar, Vikram Krishnamurthy (University of British Columbia, Canada)

The Impact of Noise on Switching Rate of L-fold Selection Diversity
Xin Wang, Norman C. Beaulieu (University of Alberta, Canada)

Asymptotic Performance Analysis of Optimum Combining for Dense Multiple Antenna Reception Under Rayleigh Fading
Payam Dehghani Rahimzadeh, Norman C. Beaulieu
(University of Alberta, Canada)

Optimal Use of Antennas in Interference Networks: A Tradeoff between Rate, Diversity and Interference Alignment
Aydin Sezgin (Emmy-Noether Research Group on Wireless Networks, Germany)
Syed Ali Jafar, Hamid Jafarkhani (University of California, Irvine, USA)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Kahili Suite 2

WCS-36: Interference Suppression and Cancellation

Chair: Amir Masoud Nasri Nasrabadi
(University of British Columbia, Canada)

Frequency Domain Hybrid--ARQ Chase Combining for Broadband MIMO Communication with Co-Channel Interference
Tarik Ait-idir, Houda Chafnaji
(Institut National Polytechnique de Toulouse, Morocco)
Samir Saoudi (Institut Telecom/Telecom-Bretagne, France)

Analysis of Degrees of Freedom of Interfering MISO Broadcast Channels
Seok-Hwan Park, Inkyu Lee (Korea University, Korea)

Performance of STBC with Unequal-Power Co-Channel MIMO Interferers under Path Loss and Rayleigh Fading
Lu Zhang (University of Delaware, USA)
Yongzhao Li (Xidian University, China)
Leonard J. Cimini, Jr. (University of Delaware, USA)
Nageen Himayat (Intel Corporation, USA)

Uplink Interference Management for HSPA+ and 1xEVDO Femtocells
Yeliz Tokgoz, Farhad Meshkati, Yan Zhou, Mehmet Yavuz, Sanjiv Nanda
(Qualcomm, USA)

Interference Subspace Tracking for Network Interference Alignment in Cellular Systems
Bo Niu, Alexander M. Haimovich (New Jersey Institute of Technology, USA)

Adaptive Random Beamforming with Interference Suppression and Beam Selection in Cellular Networks
Young-Jun Hong (Samsung Electronics Co., Ltd., Korea)
Su Min Kim, Dan Keun Sung
(Korea Advanced Institute of Science and Technology, Korea)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Honolulu Suite 3

WNS-18: Power Saving and Energy Awareness

Chair: Ehssan Sakhaee (Osaka University, Japan)

A Transmission Range Reduction Scheme for Reducing Power Consumption in Clustered Wireless Sensor Networks
Ehssan Sakhaee, Naoki Wakamiya, Masayuki Murata
(Osaka University, Japan)

Adaptive Asynchronous Clock based Power Saving Protocols for Delay Tolerant Networks
Bong Jun Choi, Xeumin (Sherman) Shen (University of Waterloo, Canada)

Improvement of Capacity and Energy Saving of VoIP over IEEE 802.11 WLANs by A Dynamic Sleep Strategy
Chenyuan Zhu, Hui Yu, Xinbing Wang (Shanghai Jiaotong University, China)
Hsiao-Hwa Chen (National Cheng Kung University, Taiwan)

Joint Optimization of Power Saving Mechanism in the IEEE 802.16e Mobile WiMAX
Gary K. W. Wong, Qian Zhang, Danny H. K. Tsang
(Hong Kong University of Science and Technology, Hong Kong)

Energy Efficient Distributed Relay Selection in Wireless Cooperative Networks with Finite State Markov Channels
Yifei Wei, F. Richard Yu (Carleton University, Canada)
Mei Song (Beijing University of Posts and Telecommunications, China)
Victor C. M. Leung (University of British Columbia, Canada)

Randomized Multi-Channel Interrogation Algorithm for Large-Scale RFID Systems
Amir Hamed Mohsenian Rad, Vahid Shah-Mansouri, Vincent W. S. Wong, Robert Schober (University of British Columbia, Canada)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Coral Ballroom 1

WNS-19: Routing in Wireless Networks

Chair: Abdelhamid Mellouk (University Paris XII, France)

Greedy Sub-channel Redistribution Routing Scheme in Multi-hop Wireless OFDMA Networks
Weiwei Wang, Jun Cai, Attahiru S. Alfa (University of Manitoba, Canada)

On the Efficiency of Random Walk Routing in Multihop Wireless Network
Yanhua Li, Debin Zou, Yuan-an Liu, Zheng Zhou
(Beijing University of Posts and Telecommunications, China)
Yong Li (Tsinghua University, China)

SARP – A Novel Multi-Copy Routing Protocol for Intermittently Connected Mobile Networks
Ahmed Elwhishi, Pin-Han Ho (University of Waterloo, Canada)

Back-Pressure Routing and Optimal Scheduling in Wireless Broadcast Networks
Qiao Li, Rohit Negi (Carnegie Mellon University, USA)

Compatibility between Optimal Tree-based Broadcast Routing and Metric Design
Chuan Han, Yujun Li, Yaling Yang
(Virginia Polytechnic Institute / State University, USA)

New Theoretical Studies and Optimal Cluster-Population Determination for Hierarchical Networks
Shih Yu Chang (National Tsing Hua University, Taiwan)
Hsiao-Chun Wu (Louisiana State University, USA)
Yiyan Wu (Communications Research Centre, Canada)
Ai-Chun Pang (National Taiwan University, Taiwan)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Coral Ballroom 2

WNS-20: 802.11 Wireless Networks

Chair: Seshadri Mohan (University of Arkansas, Little Rock, USA)

Distributed Physical Carrier Sensing Adaptation Scheme in Cooperative MAP WLAN
Yao Hua (Tsinghua University, China)
Qian Zhang (Hong Kong University of Science and Technology, Hong Kong)
Zhisheng Niu (Tsinghua University, China)

Local Estimation of Probabilities of Direct and Staggered Collisions in 802.11 WLANs
Michael N. Krishnan, Sofie Pollin, Avideh Zakhor
(University of California, Berkeley, USA)

Performance Analysis of Selfish Access Strategies on WiFi Infrastructure Networks
Laura Giarré (University of Palermo, Italy)
Giovanni Neglia (Institut National de Recherche en Informatique et en Automatique, France)
Ilenia Tinnirello (University of Palermo, Italy)

A Packet Scheduling Algorithm for Optimizing Downlink Throughput in Wireless LANs with the One-Sender Multiple-Receiver Technique
Zhenghao Zhang, Steven Bronson (Florida State University, USA)

Analysis of Asynchronous Multi-Packet Reception in 802.11 Distributed Wireless Networks
Fulvio Babich, Massimiliano Comisso (University of Trieste, Italy)

Efficient Broadcasting in IEEE 802.11 Networks through Irresponsible Forwarding
Stefano Busanelli, Gianluigi Ferrari (University of Parma, Italy)
Sooksan Panichpapiboon
(King Mongkut's Institute of Technology Ladkrabang, Thailand)

Thursday, 3 December 2009 • 16:30 – 18:30
Location: Coral Ballroom Lounge

WNS-23: Network Performance Optimization (Poster)

Chair: Wenye Wang (North Carolina State University, USA)

Effective Cell Size Scheme in Multi-hop Cellular Networks
Hung Tam, Robert Benkoczi, Hossam Hassanein, Selim Akl
(Queen's University, Canada)

HTSMA: a Hybrid Temporal-Spatial Multi-Channel Assignment Scheme in Heterogeneous Wireless Mesh Networks
Yan Jin, Ju-Yeon Jo, Mei Yang, Yoohwan Kim, Yingtao Jiang
(University of Nevada, Las Vegas, USA)
John Gowens (Army Research Laboratory, USA)

A Cognitive Approach for Performance Enhancement of Wireless Mesh Networks
Farshad Javadi, Abbas Jamalipour (University of Sydney, Australia)

Q-DRAM: QoE-based Dynamic Rate Adaptation Mechanism for Multicast in Wireless Networks
Kandaraj Piamrat (Institut National de Recherche en Informatique et en Automatique, France)
Adlen Ksentini (IRISA/University of Rennes 1, France)
Jean-Marie Bonnin (Telecom Bretagne, France)
César Viho (University of Rennes 1, France)

Capacity of Wireless Networks with Heterogeneous Traffic
Mingyue Ji, Zheng Wang, Hamid Sadjadpour
(University of California, Santa Cruz, USA)
Jose Joaquin Garcia-Luna-Aceves
(University of California, Santa Cruz / Palo Alto Research Center, USA)

Notes:

Monday, 30 November 2009 • 9:00 – 12:30
Location: Sea Pearl Suite 1 – 3

Iterative Detection Era

Instructor: Lajos Hanzo, University of Southampton

Mobile communication devices are becoming ever more powerful and sophisticated. This course reviews the most recent trends, techniques and system components in the field of wireless multimedia communications.

Monday, 30 November 2009 • 9:00 – 12:30
Location: Sea Pearl Suite 4 – 6

T2: Tracking Cyber Attacker

Instructor: Manu Malek, Stevens Institute of Technology

The objective of this tutorial is to provide an overview of security forensics and address some of the technological and legal issues involved. The discipline involves identification, preservation, and analysis of evidence of security attacks. Forensic activity takes place in a complex technical, legal, and social context which must be understood to fully appreciate its power and value. A few simple forensic tools and an example of tracking the attacker will be demonstrated.

Monday, 30 November 2009 • 9:00 – 12:30
Location: Kahili Suite

T3: Cooperative Wireless Networks

Instructors: Frank Fitzek, Aalborg University
Marcos Katz, VTT Technical Research Centre of Finland

In three lectures, cooperation is advocated to overcome the most critical problems in mobile communication, known as energy consumption, security, and higher data rates. The first part will introduce the main rules for cooperation. The second part is presenting cooperation concepts at the different protocol layers from applications to the physical layer. In the last part, topics such as social mobile networks, game theory and genetic programming are presented.

Monday, 30 November 2009 • 9:00 – 12:30
Location: Hibiscus Suite

T4: Application Enablers for Challenged Networks

Instructor: Roch Glitho, Concordia University

This tutorial reviews applications enablers for challenged networks and discusses related research directions. A three dimensional taxonomy (challenged network type, involved layers, and application) is used as framework for the discussions. The tutorial starts by introducing the most widely deployed challenged networks. After that, we introduce the two challenged networks-agnostic application enablers (i.e. enablers that target all challenged networks), meaning the delay/disruption tolerant network (DTN) overlay of the IETF and the ambient control space (ACS) overlay from an EU 6FP project. The last part of the tutorial focuses on the challenged networks specific enablers (i.e. enablers that target a specific challenged network).

Monday, 30 November 2009 • 9:00 – 12:30
Location: South Pacific Ballroom 1

T5: PONs for Next Generation Broadband Access

Instructor: Nirwan Ansari, NJIT

This tutorial will provide a comprehensive overview of PONs, including the network architecture and enabling technologies, as well as diverse versions of PONS and their corresponding protocols. A close examination of the resource management issue along with the state-of-art schemes over time division multiplexed PONs (TDM-PONs) will be presented. This tutorial will also cover the recently proposed candidate architectures for Next Generation Access 1 (NGA1), which has been proposed by FSAN as the first stage of next generation passive optical networks (PONs), and briefly describe the envisioned Next Generation Access 2 (NGA2).

Monday, 30 November 2009 • 9:00 – 12:30
Location: South Pacific Ballroom 2

T6: A Systematic Framework for Cross-layer Optimization

Instructors: Mihaela van der Schaar & **Fangwen Fu**,
University of California, Los Angeles

In this tutorial, we present a systematic framework for cross-layer optimization that allows each layer to make autonomous and foresighted decisions on the selected transmission strategies (e.g. protocol parameters and algorithms), while cooperatively maximizing the utility of the wireless user (e.g. multimedia quality) by determining the optimal information to be exchanged among layers. Specifically, this tutorial will focus on systematic cross-layer optimization framework, formal message exchange mechanisms among layers, and on-line learning algorithms for the cross-layer optimization.

Monday, 30 November 2009 • 14:00 – 17:30
Location: Sea Pearl Suite 1 – 3

T7: Security of Information and Communication Networks

Instructor: Stamatios Kartalopoulos, University of Oklahoma

This short course will provide an overview of encryption methods and data privacy. The tutorial will also cover modern network security issues, network security levels, and security layers in communication networks; mathematical foundation for security; symmetric & asymmetric ciphers; key distribution algorithms; quantum cryptography and QKD; vulnerabilities and countermeasures in QC; biometrics in communication networks; chaotic processes in security; and security in the next generation optical networks.

Monday, 30 November 2009 • 14:00 – 17:30
Location: Sea Pearl Suite 4 – 6

T8: Architectures for the Future Networks and the NGI

Instructor: Raj Jain, Washington University in St. Louis

This tutorial on latest advances in future networking architectures is designed for researchers, engineers and managers involved in future networking product strategies. Networking research funding agencies in USA, Europe, Japan, and other countries are encouraging research on revolutionary architectures that may or may not be bound by the restrictions of the current TCP/IP based Internet. The tutorial covers several future networking architecture research developments, and technologies.

Monday, 30 November 2009 • 14:00 – 17:30
Location: Kahili Suite

T9: Multiple Antenna Systems from Optimum Combining to MIMO: Random Matrix Theory Analysis

Instructors: Marco Chiani, DEIS, University of Bologna
Moe Win, Massachusetts Institute of Technology

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. The effect of space and time correlation on the capacity of MIMO channels will first be presented for a point-to-point link. In network scenarios, where many users employ MIMO, we discuss how the capacity decreases due to the presence of MIMO interferers. Applications include wireless cellular systems, high-speed wireless LAN, WiMAX, as well as energy-constrained multi-node wireless systems.

Monday, 30 November 2009 • 14:00 – 17:30
Location: Hibiscus Suite

T10: Broadband Video Networking

Instructor: Benny Bing, Georgia Institute of Technology

This tutorial focuses on the optimization of video transmission over broadband access networks and the Internet. This tutorial will describe emerging video technologies that can significantly improve the quality of video transmission. Participants will learn how these innovations can jumpstart emerging online video streaming services and allow these services to achieve video quality levels comparable to that delivered over managed networks and proprietary set-top hardware.

Monday, 30 November 2009 • 14:00 – 17:30
Location: South Pacific Ballroom 1

T11: Practical Steps in Techno-Economic Evaluation of Network Deployment Planning

Instructors: Koen Casier, **Jan Van Ooteghem**, **Bart Lannoo**, **Sofie Verbrugge**, Ghent University

This tutorial aims at giving an overview of the techno-economic planning process for network deployment, migration and/or service offerings. It discusses in detail the entire flow, from input gathering over modeling and up to evaluation (including game theory and real options). Finally, this methodology is applied to a realistic case of an FTTH deployment.

Monday, 30 November 2009 • 14:00 – 17:30
Location: South Pacific Ballroom 2

T12: Cognitive Radio Networks

Instructor: Kwang-Cheng Chen, National Taiwan University

This tutorial gives a complete comprehensive introduction to audience, including state-of-the-art wireless communications and natures, spectrum sensing for cognitive radio "network", cooperative networking, cognitive/cooperative medium access control, network layer design issues of cognitive/cooperative radio networks, trust and security in heterogeneous cooperative wireless networks, theoretical limitations, and price & spectrum management strategy for operators and users.

Friday, 4 December 2009 • 9:00 – 12:30
Location: Sea Pearl Suite 5 – 6

T14: Game Theory for Cognitive Radio Networks

Instructors: Ekram Hossain, University of Manitoba
Zhu Han, University of Houston

In this tutorial, an intensive (but friendly) introduction to the various game theory models, their fundamental concepts and properties, and their applications in designing dynamic spectrum access protocols for cognitive radio networks (CRNs) will be provided. The scope of this tutorial includes the technical aspects (rather than the regulatory and policy aspects) related to application of the game theory for designing spectrum sharing and management techniques.

Friday, 4 December 2009 • 9:00 – 12:30
Location: Kahili Suite

T15: 3GPP Evolution to 4G Wireless: E-UTRAN and EPC

Instructors: Vijay Varma & **Gregory P. Pollini**, Telcordia Technologies

The tutorial starts with the drivers and objectives for 3GPP's long term evolution and optimization of packet core network. This will be followed by a discussion of the E-UTRAN architecture and design. This will be followed by the EPC design that enables QoS support for real-time services and seamless mobility within and across multiple radio access networks. We will conclude the presentation with a status of standardization in 3GPP as well as deployment and market projections for these technologies.

Friday, 4 December 2009 • 9:00 – 12:30
Location: Hibiscus Suite

T16: Radio over Fiber: An Optical Technology for Wireless Access

Instructor: Xavier Fernando, Ryerson University

Optical fiber based wireless (Fi-Wi) access using radio-over-fiber (ROF) concept combines the flexibility of wireless with the capacity of fiber to support bandwidth hungry services. There are several reasons why widespread interest is currently focused in Fi-Wi networks. This tutorial will cover both optical and wireless aspects.

Friday, 4 December 2009 • 9:00 – 12:30
Location: South Pacific Ballroom 1

T17: Coding for Cooperative Communications

Instructors: Ali Ghrayeb, Concordia University
Tolga Duman, Arizona State University

This tutorial gives a complete overview of the various emerging coding techniques for cooperative communication networks. These include distributed spacetime coding, distributed concatenated coding and iterative decoding, combined network coding and channel coding, among others. The tutorial focuses on the construction and performance analysis of such coding schemes over various wireless channels. In addition, it addresses information theoretical limits for various configurations of cooperative wireless networks.

Friday, 4 December 2009 • 9:00 – 12:30
Location: South Pacific Ballroom 2

T18: Principles of Network Security Protocols

Instructors: Radia Perlman, Sun Microsystems Laboratories
Charlie Kaufman, Microsoft

This tutorial demystifies the field, and focuses on a conceptual understanding of the pieces that someone who isn't wanting to specialize in cryptography, and yet does want to understand the implications of security on network protocols, needs to know. This tutorial gives an intuitive understanding of the basic cryptographic tools, and focuses on what their functional differences are.

Friday, 4 December 2009 • 14:00 – 17:30
Location: Sea Pearl Suite 1 – 3

T19: Indoor Geolocation Systems – Theory and Applications

Instructor: Ilir Progri, Giftet Inc.

The goal of this tutorial is to introduce and discuss indoor geolocation systems theory and applications research and development processes for over 20 years. We will introduce geolocation systems and classify the state of the art radio geolocation systems with illustrations. Then, identify issues with the state of the art indoor geolocation systems and discuss the indoor geolocation channel and propose a mathematical model for the unified geolocation channel.

Friday, 4 December 2009 • 14:00 – 17:30
Location: Sea Pearl Suite 5 – 6

T20: Enabling Technologies and Standardization Activities of IMT-Advanced

Instructors: Hossam Hassanein, Queen's University
Najah Abu Ali, UAE University

This tutorial describes the requirements for IMT-Advanced candidate radio systems. We show how the candidate technologies for Broadband Wireless Access (BWA) are able to meet the requirements set by IMT-Advanced, taking into account both current advances in addition to those expected in the near future. The tutorial will focus on efforts made by the IEEE (through its candidate IEEE 802.16m) and 3GPP2 (pushing LTE-Advanced).

Friday, 4 December 2009 • 14:00 – 17:30
Location: Kahili Suite

T21: Generalized DFT for OFDM Communications

Instructor: Ali Akansu, NJIT

In this tutorial, we will review the theoretical framework of recently introduced Generalized DFT (GDFT) as an extension to DFT exploiting the entire phase space where DFT with linear phase is a special solution. It will be presented that GDFT framework allows us to design constant amplitude basis sets adaptively mimicking channel variations and mitigating BER and RF power degradations due to ISI, ICI and PAPR. Several practical design methods offering computationally efficient implementations of GDFT as minor modifications to FFT will be highlighted.

Friday, 4 December 2009 • 14:00 – 17:30
Location: Hibiscus Suite

T22: Femtocells: Opportunities and Challenges

Instructors: Mark Reed, National ICT Australia, ANU
Zhenning Shi, Shanghai Bell - Alcatel Lucent

This course offers an introduction to femtocells, the network architecture, the market, and the technical challenges associated with deploying the technology. The presentation will describe details of the players and the opportunity as well as real-world insights into the challenges associated with network operations and management and the radio air interface interference problems. A discussion on alternative fixed mobile convergence solutions and the cost-benefit trade-off will be performed as well as details of enterprise femtocells and the advantages of such a deployment.

Friday, 4 December 2009 • 14:00 – 17:30
Location: Sea Pearl Suite 3 – 4

T23: MIMO DETECTION: Theory and Practice

Instructor: John R. Barry, Georgia Tech

This tutorial will present the basic principles of MIMO detection. We describe the fundamental problem, present an overview of MIMO detectors that are used in practice, and identify emerging trends and research in the area. Our coverage ranges from simple linear MMSE detectors to the optimal maximum-likelihood sphere detector. We will examine successive cancellation, multistage detectors, the MMSE sphere detector, the Fano algorithm, the M-algorithm, the K-best algorithm, and list-based. Lastly, we will quantify the performance-complexity tradeoff for a variety of detection strategies.

Friday, 4 December 2009 • 14:00 – 17:30
Location: South Pacific Ballroom 2

T24: Nano-Sensor Networks using Molecular Communications

Instructor: Ian F. Akyildiz, Georgia Tech

In this tutorial, state-of-the-art in nano-sensors, including architectural aspects, expected features of future nano-sensors, and current developments are presented for a better understanding of nano-sensor network scenarios. Open research challenges, such as the development of network components, molecular communication theory, and the development of new architectures and protocols, are presented which need to be developed in order to pave the way for the development and deployment of nano-sensor networks within the next couple of decades.

Friday, 4 December 2009 • 14:00 – 17:30
Location: Coral Ballroom 3

T25: Getting Your Point Across - Essential Communications for Engineers

Instructor: Celia Desmond, World Class Telecommunications

This seminar addresses many of the areas which enable technical professionals to communicate effectively, orally and in writing, in different situations. The talk directly addresses basic skills of communications, such as preparing presentations, writing reports, and preparing resumes. Equally as important though, the talk addresses the environment in which the communications occur. Successful communications consider the receiver of the communications, ensuring that the message is presented in a form which will be attractive to the receiver.

Monday, 30 November 2009 • 9:00 – 17:30
Location: South Pacific Ballroom 3

WS1: IEEE 802® Standards Education Workshop: The World of IEEE 802 Standards

Organizers: Sponsored and organized by the IEEE Standards Education Committee, a Joint Standing Committee of the IEEE Educational Activities Board and the IEEE Standards Association
Chair: David Law, Chairman, IEEE 802.3

This workshop will provide a full day of immersion into the world of IEEE 802 Standards and cover each of the working groups developing standards in both the wired and wireless areas/fields. Included will be an overview and scope of each technical working group and how they relate or differ from each other. The presenters will focus on the functional capabilities and market relevance of the standards, and attendees will learn the status of current and future projects within the groups. The workshop will also walk attendees through the standards development process, and include an important discussion on intellectual property issues.

Monday, 30 November 2009 • 9:00 – 17:30
Location: South Pacific Ballroom 4

WS2: 5th IEEE Broadband Wireless Access Workshop

Organizers: Thomas Michael Bohnert, SAP Research CEC Zurich
Dmitri Moltchanov, Tampere University of Technology
Edmundo Monteiro, University of Coimbra
Dirk Staehle, University of Wuerzburg
Gabor Fodor, Ericsson Research

Internet access is undergoing a fundamental change. A steadily increasing spectrum of services is attracting a rapidly growing number of users which, in turn, wish to access these services 'anytime and anywhere'. In order to meet this demand, Broadband Wireless Access (BWA) technologies are becoming extremely important and vendors and standardization bodies respond to this development with new and powerful BWA technologies.

Although BWA technologies are rapidly maturing, they are far from being complete and optimized for such a versatile environment like the Internet. Consequently, BWA is currently receiving much attention by the research community.

Monday, 30 November 2009 • 9:00 – 17:30
Location: Coral Ballroom 1

WS3: IEEE Workshop on Multi-Gigabit MM-Wave and Tera-Hz Systems (MTWS)

Organizers: Young-Chai Ko, Korea University
Mohamed-Slim Alouini, Texas A&M University at Qatar
Alireza Seyedi, University of Rochester
Robert W. Heath Jr., University of Texas at Austin
Isabelle Siaud, France Telecom R&D
Byoung-Hoon Kim, LG Electronics

The scope of the workshop is to provide a platform for developing an integrated solution to millimeter wave and Tera-Hz wireless communications. The workshop also aims to bring in together both long-term academic and shorter term industrial viewpoints. This workshop is the first ever to bring in together the experts from RF/analog/baseband hardware, physical and MAC layers in order to address the peculiar issues of MTWS.

Monday, 30 November 2009 • 9:00 – 17:30
Location: Coral Ballroom 2

WS4: IEEE Workshop on Below IP Networking

Organizers: Raimo Kantola, Helsinki University of Technology
Ran Giladi, Ben-Gurion University

There are numerous add-on solutions in IP networks. Many of them reside below IP in the protocol stack. Add-ons provide resiliency, traffic engineering, quality of service, network virtualization, network hiding and edge to edge connectivity etc. Ethernet and MPLS footprints in networks are increasing. An industry trend is that from synchronous transmission, networks are moving to packet based transport based on 802.1 variants or IP/MPLS. Both Ethernet and MPLS are being turned into Carrier Grade transport technologies. The 1st IEEE Workshop on Below IP Networking (BIPN '09) provides a venue for academic and industrial research communities for exchanging ideas and experience on all aspects of below IP Networking.

Friday, 4 December 2009 • 9:00 – 17:30
Location: South Pacific Ballroom 3

WS5: 2nd IEEE Workshop on Green Communications

Organizers: Jürgen Quittek, NEC Europe Ltd
Ken Christensen, University of South Florida
Gerhard Fettweis, Technische Universität Dresden
Hiroyuki Morikawa, University of Tokyo

The Second International Workshop on Green Communications will bring together academic and industrial researchers for discussing energy-efficient communications. After the successful first workshop on green communications at ICC 2009 in Dresden, Germany, it will continue to serve as a forum for addressing research challenges between the already established conferences and workshops covering energy efficiency for IT on one side and for wireless sensor networks on the other side.

Friday, 4 December 2009 • 9:00 – 17:30
Location: South Pacific Ballroom 4

WS6: 2nd IEEE Workshop on the Network of the Future (FutureNet II)

Organizers: Masayuki Murata, Osaka University
Dipankar Raychaudhuri, Rutgers University
Rolf Winter, NEC Laboratories Europe
Lars Eggert, Nokia Research Center / Helsinki University of Technology
Ryutaro Kawamura, NICT / NTT Laboratories
Deep Medhi, University of Missouri-Kansas City

The International Workshop on the Network of the Future (FutureNet II) is a platform for both clean-slate as well as evolutionary approaches for a redesign of the Internet. It will uniquely bring together approaches driven from mobile and wireless demands, network virtualization, network self-management, content and sensor networking and discuss these from both a technical as well as socio-economic
perspective.

Friday, 4 December 2009 • 9:00 – 17:30
Location: Coral Ballroom 1

WS7: 3rd IEEE Workshop on Enabling the Future Service-Oriented Internet

Organizers: Michael Devetsikiotis, North Carolina State University
George Michailidis, University of Michigan
Bob Callaway, IBM Software Group

The objective of the workshop is to address network-level as well as application and service-layer topics of analysis, design, monitoring and experimentation. The top-down interplay between services and networking creates unique modeling, design and implementation challenges. The goal of the workshop is to focus the community's efforts in building up this important area by discussing perspective issues and required breakthroughs in research and development.

Friday, 4 December 2009 • 9:00 – 12:30
Location: Coral Ballroom 2

WS8: IEEE Workshop on Networking Intelligent Vehicles and Infrastructures (Nivi)

Organizers: Russell Hsing, Telcordia Technologies
Daniel Wong, 3G Wireless & Software
C K Toh, University of Hong Kong
Hong Cheng, Telcordia Technologies

This workshop is intended to serve as a forum and bring together the researchers and engineers in both academia and industry to exchange ideas, share experiences, and report original works about all aspects of service discovery and composition in ubiquitous and pervasive environments. The main purpose is to promote discussions of research and relevant activities in the design of architectures, algorithms, and applications for inter-vehicular communication environments. This workshop will also address some leading standardization efforts (802.11p, p1609, TIA TR48, etc.).

Friday, 4 December 2009 • 9:00 – 12:30
Location: Sea Pearl Suite 1 – 2

WS9: IEEE Workshop on Network Operation Cost Modeling

Organizers: Carmen Mas Machuca, Munich University of Technology
Monika Jaeger, T-Systems
Sofie Verbrugge, Ghent University
Koen Casier, Ghent University

This workshop aims at gathering detailed models and data for the different network processes. This includes template or best-practice process descriptions and the associated input data, case study descriptions and results, discussion on methods and tools and the broader context in which this problem resides including the regulatory aspects.

Friday, 4 December 2009 • 14:00 – 17:30
Location: Sea Pearl Suite 3 – 4

WS10: IEEE Workshop on Telecommunications Infrastructure Protection and Security (TIPS)

Organizers: Thomas F. La Porta, Pennsylvania State University
Patrick McDaniel, Pennsylvania State University
Karl F. Rauscher, Alcatel-Lucent
Jun Shu, Pennsylvania State University

The workshop will focus on the analysis and needs of security infrastructure in telecommunications networks, as well as impacts of increasingly global supply chains on national and international telecommunications infrastructure. The purpose of this workshop is to exchange ideas and experience related to these increasingly important but under-analyzed aspects of infrastructure protection.

HISTORY OF TELECOMMUNICATIONS

Thursday, 3 December 2009 • 10:15 – 12:15 • Location: South Pacific Ballroom 4

Chairs
J. Baal-Schem, Tel-Aviv University
J. Hayes, Concordia University

Many historical developments contributed towards the goal of GLOBAL CONNECTIVITY. New technologies were developed, new means of telecommunication were used and regulatory policies evolved. This session will examine the sweep of history and consider how past research, development, and deployment of communications infrastructure are evolving into the future.

KEYNOTE PRESENTATION
The ALOHA Protocol
Norm Abramson, University of Hawaii

PAPER PRESENTATIONS
The Invention of Ferrites and their Contribution to the Miniaturization of Radios
Akira Okamoto, TDK History Museum

Research and Events that permitted Facsimile use to Explode in Japan
Kaoro Wakabayashi, NTT Corporation

PANEL DISCUSSION
Who does Research after Divestiture?
Moderator
Steve Weinstein, Consultant

Panelists
J. Cioffi, Stanford University
D. Wedemeyer, University of Hawaii
Paul Kuehn, University of Stuttgart

After the session, a video on the **YOSAMI VLF Station** will be screened (by **Dr. Eiju Matsumoto**, Japan Council History Committee).

IEEE HUMANITARIAN TECHNOLOGY CHALLENGE PROJECT

Thursday, 3 December 2009 • 14:00 – 16:00 • Location: South Pacific Ballroom 4

Organizers
Richard Baseil, IEEE Technical Activities
Mehmet Ulema, Manhattan College

Chair
Roberto de Marca, Chair of the IEEE HTC Steering Committee

Speakers
Mark Summer, Co-Founder and Chief Innovation Officer, Inveneo
Harold Tepper, IEEE HTC Project Manager
Peter Spring, IEEE HTC Solution Chair for Data Connectivity
Mary Ward-Callan, Managing Director, IEEE Technical Activities

The Humanitarian Technology Challenge (www.ieee.org/go/htc) is a joint project between the IEEE and the United Nations Foundation, a non-profit humanitarian organization. The project identifies and addresses three key humanitarian challenges, largely in developing countries. The project objective is to create sustainable technology solutions to pressing humanitarian needs that can be implemented locally, within the economic and environmental conditions where they will be deployed. The project also aims to define repeatable processes and models that can be used to address future challenges.

As far as we know, the HTC is the first time that a major humanitarian organization and a technology association have formed an up-front, collaborative relationship. We intend to demonstrate the value of humanitarians working directly with technologists to create innovative solutions that serve the greater good. Supporting this partnership are funding Foundations, such as the Vodafone Foundation and the IEEE Foundation, and non-governmental organizations (NGOs) that have resources “on the ground” in challenge areas, ensuring that solutions developed will be deployable into areas that will need them.

We have identified many humanitarian-driven needs through focus group efforts, and we selected three as Challenges to be addressed. They are: Reliable Electricity, Data Connectivity of Regional Health Offices, and Individual ID Tied to Health Records. Many technologies are applicable to addressing these challenges, including those related to communications.

Working groups have been established to collaborate, both in-person and via web collaboration, in developing open-source-like technological solutions. We call this "collaborative crowdsourcing." We have IEEE members, other technologists, humanitarians, corporation representatives, philanthropic foundations, academicians, and students participating in the solution process, and we encourage involvement of more.

This session will consist of a panel of leaders participating in the HTC project, to address the background of the project, explain the needs being addressed, and present some of the solution ideas being proposed.

GEOSS WORKSHOP XXXII
MITIGATION AND MANAGEMENT OF DISASTERS THROUGH COMMUNICATIONS

Organized in association with IEEE ICEO and ComSoc, OGC, and ISPRS

Monday, 30 November 2009 • 8:00 – 18:00 • Location: Tapa Ballroom 3

The Global Earth Observation System of Systems (GEOSS) is a complex "system of systems," including sensors, communication systems, spatio-temporal data infrastructures and other components essential for observing the Earth on all relevant scales and disseminating this information to users for a host of important societal benefits. The GEOSS workshop XXXII – Mitigation and Management of Disasters through Communications, will focus specifically on communications systems and infrastructure for GEOSS, with a special emphasis on communications during and after disasters and on communications systems in developing countries.

Workshop Theme
The Workshop will explore the status of existing telecommunications systems and data networks for GEOSS. The discussion will focus on the ability to both build on existing systems and take advantage of new telecommunication services to develop a framework for timely and widespread communication of information to support prediction, mitigation, and management of disasters. Examples of events include rapid processes such as earthquakes, landslides, and tsunamis, events of moderate time scale such as flooding and infectious outbreak, and slower events such as droughts. The theme of the workshop supports Group on Earth Observation (GEO) tasks DI-09-03 (Warning system for disasters), and AR-09-04 Dissemination and distribution networks.

Workshop Details
This one day workshop will focus on advanced communication systems critical to the dissemination of timely disaster alerts, and to assist in disaster and post-disaster management. Discussions will include approaches to communications technologies in both developed countries as well as in bandwidth limited situations of developing countries. Key representatives from industry, academia, and government will be providing invited talks on these and related issues that impact GEOSS implementation for disaster mitigation and relief.

This workshop is a co-located event and there is no registration fee to attend.

Session 1: Opening
Moderator: Jay Pearlman, IEEE

8:00: **Welcome and Opening**
Doug Zuckerman, Telcordia Technologies

8:15: **Logistics and Introduction to Workshop Objectives**
Al Gasiewski, University of Colorado

8:30: **Around the Room Introductions**
Francoise Pearlman, IEEE

Session 2: GEOSS and Disaster Management
Moderator: Al Gasiewski, University of Colorado

8:45: **Introduction to GEOSS and Approach to Disaster Management – GEONET**
Jay Pearlman, IEEE

9:10: **Outcome from GEOSS Workshop XXX – Disaster Management and Humanitarian Assistance (Kampala)**
Ian Dowman, International Society for Photogrammetry and Remote Sensing (via WEBEX, telephone)

9:25 **Common Alert Protocol (CAP)**
Tom VonDeak, NASA (via WEBEX, telephone)

9:40: **The GEOSS Infrastructure and Communication Mechanisms, GEONETcast**
George Jungbluth, National Oceanographic and Atmospheric Administration – NOAA

10:05: **Examples of Warning Systems (GEO task DI-09-03) – Fire Warning and Tsunami**
Stuart Weinstein, NOAA Tsunami Warning Center

10:30: Coffee Break

Session 3: Communication Systems During and After Disasters
Moderator: Bill Semancik, US Department of Defense

11:00: **Experiences with Communication Networks for First Responders**
John Coloe, Fire Department of New York City (FDNY)
Lt. John Titchen, 14th Coast Guard District, Honolulu

12:00: **Amateur Radio Communications for Sustaining Communications Post Disasters**
Kevin Bogan, AH6QO; ARRL Pacific Section Emergency Coordinator

12:30: Lunch

Session 4: Communication Strategies for Developing Countries
Moderator: Francoise Pearlman, IEEE

13:30: **Special Needs for Communications in Developing Countries and Other Special Situations**
Mehmet Ulema, Manhattan College

14:00: **Cell Phone based Networks**
Ian Akyildiz, Georgia Institute of Technology

14:30: **PDA and Small Computers**
Markus Hoffman, Alcatel Lucent

15:00: **Ad Hoc Communications Network Strategies**
Tim Brown, University of Colorado

15:30: Discussion and Coffee Break

Session 5: Breakout Groups -
Moderator: Mehmet Ulema, Manhattan College

16:00: **Charter to Breakout Groups:**
Al Gasiewski, University of Colorado

16:15: **Breakout Groups**
A. GEOSS and Disaster Management
B. Communication Systems during and after Disasters
C. Communication Strategies for Developing Countries

17:30: **Reports of Breakouts and Panel**

Session 6: Closing

17:45: **Conclusions and Workshop Summary**
Doug Zuckerman, Telcordia Technologies
Al Gasiewski, University of Colorado

18:00: Workshop Adjourned

IEEE GRADUATES Of THE LAST DECADE (GOLD) SESSION

Communication Technology Serving Humanity

Monday, 30 November 2009 • 18:30 – 21:00 • Location: Tapa Ballroom 3

IEEE Graduates of the Last Decade

A common theme of interest and passion for young professionals is a compelling desire to improve our world, contribute to society, and benefit humanity. The current generation of students, young professionals, and women are driven to join organizations and volunteer their time in support of these worthy activities. The GOLD panel session will bring together interested individuals and several humanitarian organizations to discuss opportunities for humanitarian engineering outreach activities. The goal is to inform attendees about variety of humanitarian engineering opportunities available, and how communication technology has served the humanity. The session will also inspire people, who will invent the future, to bring vision of utilizing communication technology for humanitarian works closer to the young professionals and students.

Door Prizes - 5 IEEE Beach Towels

18:30 Networking with Light Refreshment

19:00 **Panel Session on Communication Technology Serving Humanity**

20:30 Conclusion

Panel Session on Communication Technology Serving Humanity

Chair

Soon Wan, IEEE Member (GOLD), IEEE MGA GOLD Committee Past Chair

Co-Chair

Angela Yingjun Zhang, IEEE Member (GOLD), IEEE Communication Society GOLD Coordinator

Roberto de Marca
IEEE Fellow, Chair of IEEE Humanitarian Technology Challenge

Humanitarian Technology and IEEE

IEEE members are involved in many activities using technology to improve human conditions, worldwide. Recently, the IEEE has established a wiki-based website, the Humanitarian Technology Network (www.ieeehtn.org) to record these activities and facilitate networking of interested parties. The IEEE Foundation has established a special Humanitarian Technology Fund to collect and distribute money for worthwhile causes. In addition, the IEEE has partnered with the United Nations Foundation to select three key humanitarian challenges where application of new or improved technologies could improve conditions in developing countries. That project is called the Humanitarian Technology Challenge (www.ieee.org/go/htc). This presentation will summarize the status of these efforts, with particular focus on the HTC project and progress being made in solving the three selected challenges. Continued and increased involvement of GOLD and student members in IEEE's Humanitarian Technology activities is strongly encouraged.

Robert Walp
IEEE Life Fellow, Chair of Humanitarian Communications Technology Committee

Satellite Communications in Remote Communities

Robert M. Walp will examine the early use of satellite communications to connect isolated remote communities with urban centers for medicine, education, commercial and social purposes, as seen by one participant in the process. The evolutionary development of this technology, comprising random and unexpected events and leading to commercial operational systems, will be covered from a personal viewpoint.

Mehmet Ulema, IEEE Senior Member
IEEE GLOBECOM 2009 Technical Program Chair

GAP: Improving Access to Worldwide Telecom Network

Telecommunications services are not equally available to everyone in the world. This disparity, often called the "Digital Divide," receives much talk, but little progress has been made. This talk will focus on the economic aspects and discuss how subsidy funds can be directed to the consumers. When implemented, this concept provides consumers with the purchasing power needed to buy services; thereby it emulates conditions in an affluent region and attracts entrepreneurs to supply services in response to demand. This project requires input from many disciplines. There will be technical analyses of existing and new portions of the net, but there will also be much economic analysis, model building and simulation. Selected representative topics include service needs according to region, technologies and their applications, skills, essential human capital, regulatory and governmental policies, etc.

WOMEN IN COMMUNICATIONS ENGINEERING

Career Opportunities in the Future Communications and Networking Environment

Thursday, 3 December 2009 • 16:30 – 18:30 • Location: South Pacific Ballroom 4

Sponsored by ComSoc Women in Communications Engineering Ad Hoc Committee

Panel Organizer
Heather Yu, Senior Manager, Huawei Technologies

Panel Chair & Moderator
Maria Luisa Merani, Associate Professor of Telecommunication Networks, Universita' degli Studi di Modena e Reggio Emilia

Panelists
Celia Desmond, President, World Class Telecommunications
Agnes Chan, Professor, Associate Dean, and Graduate Director, College of Computer and Information Science, Northeastern University
Mary Ward-Callan, Managing Director of Technical Activities, IEEE
Marjorie Pearson, Network Applications Engineer, TW Telecom

Going on the job market? Need some advice on career development in the field?

Join us at this career panel where the distinguished panelists will address some intimate issues on career development. It is a great opportunity to learn directly from those experienced and highly achieved in the field about the increasingly diverse career paths, the various career options, industry and technology trends, and insights into the different communications engineering careers.

The panelists will address some frequently asked questions such as

- Should I go into academia or industry?
- What are the pros and cons?
- How do I decide?
- How does one balance career and family life, especially during child rearing age?
- How does one get recognized and promoted, or even better, break the glass ceiling?
- What are the effective networking tactics and opportunities?

These and many other related questions will be addressed in the first half of the panel followed by an open discussion with advice regarding helpful resources, career considerations, and best practices in achieving professional success. All are invited to attend this special panel for valuable discussion on career and professional development. It will also give you the opportunity to connect with other men and women who share the same research interests, attend the same conferences and face the same career challenges.

TECHNICAL COMMITTEES

Our technical committees define and implement the technical directions of the Society. As a fundamental element of the Society, all members are invited and encouraged to participate in one or more of its technical committees. Throughout the year, these committees also play a major role in determining which events (conferences, workshops, etc.) are technically co-sponsored by ComSoc. Many of these committees - networks of professionals with common interests in communications - will be meeting at IEEE GLOBECOM 2009.

Enclosed in your registration bag is a committee meetings schedule, which includes technical committees. Schedules will also be available at the registration desk. We look forward to your participation.

Ad Hoc & Sensor Networks

The Committee will serve as ComSoc's focal point in the area of wireless ad hoc and sensor networks technologies, stimulating and organizing leading-edge wireless ad hoc and sensor networks symposia, workshops, sessions and tutorials at ComSoc conferences. It will also serve as a proactive facilitator in the dissemination of evolving wireless ad hoc and sensor networking standards.

Cognitive Networks

The goal of TCCN is to provide a platform for its members in particular, and the cognitive networking research, development, policy making and standardization community in general, to interact and exchange technical ideas to identify major challenges and also derive solutions in the development of cognitive networking technologies.

Communications & Information Security

This committee will promote security of all types of communication networks and forms of information transported by them and through them, end to end. Our security interests start from the network physical layer and they end on the end user application layer. The committee will support conferences, symposia, technical sessions, publications, etc., where information is exchanged within the scope of interest of the TC.

Communications Quality and Reliability

This committee focuses on and advocates worldwide communications quality and reliability on behalf of, and within, the Communications Society. CQR serves as the catalyst for global awareness and the exchange of information relative to technical and management-related aspects of communications quality and reliability.

Communications Software

The mission of this committee is to advance the state of the art in communications software and its various aspects and applications. It serves as the major forum for discussion among communications software professionals in both of the communications and computer industries.

Communications Switching & Routing

The objective of this committee is to sponsor publications, conference technical sessions, workshops and topical meetings and discussions in the theory and applications of information switching. Specific areas include, but are not limited to theory, architecture, traffic, performance, signaling protocol and networks, call and mobility control, services and features, planning, economic factors and management of switching systems.

Communications Systems Integration & Modeling

This committee is concerned with the systems disciplines and modeling tools that facilitate the integration of information-transport equipment, subsystems, and networks into communications systems. The committee particularly addresses computer-aided modeling of integrated subsystems to answer architectural and performance questions.

Communication Theory

This committee sponsors conference sessions, workshops, tutorials, as well as promoting and reviewing papers in the broad area of communication theory, with emphasis on applications to practical systems. The technical content of these sessions and papers focuses on the analytical and theoretical aspects of many diverse areas that include modulation, coding, synchronization, equalization, signal processing and neural networks, transmission over all media, source and channel coding, spread spectrum and multiple access, data communications, and communication networks.

Data Storage

This committee (DS) promotes advances in the state of the art of coding and signal processing to enhance digital data storage systems, in order to achieve high storage densities, fast access, and low error rates. The committee is also interested in VLSI implementations of read/write channel electronics.

Enterprise Networking

This Committee focuses on "end-to-end" solutions, addressing topics such as re-engineering of business processes around computers and communications, end-to-end network design and integration of subsystems, interconnection and interoperability of all components of an enterprise network, including Local/Wide/Global Area Networks, networked applications and services. It addresses the needs of vertical markets, such as healthcare, finance and telecommunications with respect to functional (e.g., VPNs and ERP) as well as non-functional (e.g., security and management) requirements.

High-Speed Networking

This committee promotes interest within and outside the Communications Society on the emerging applications and architectural solutions for high-speed networks. A primary goal is to serve as a focal point for activities in high performance networking by participating in and sponsoring conferences and workshops; encouraging publications, fostering discussion; and providing education on the utility of high-speed networks and possible architectural alternatives required for optimum infrastructure.

Information Infrastructure

This committee identifies and exchanges knowledge on issues related to National Information Infrastructure (NII) and Global Information Infrastructure (GII). It stimulates interdisciplinary conferences, sessions, workshops, publications, and standards activities, and offers leadership and support to the Communications Society in furthering its own use of the national and global information infrastructures.

Internet

This committee is a joint committee of the Internet Society and the IEEE Communications Society for stimulating interdisciplinary exchanges and applications of state of the art communications and related technologies to Internet infrastructure and services. The committee contributes to the emergence of an ubiquitous, multimedia, and high-performance Internet serving large segments of the world's population.

Multimedia Communications

This committee examines systems, applications, services and techniques in which two or more media are used in the same session. These media include, but are not restricted to, voice, video, image, music, data, and executable code. The scope of the committee includes conversational, presentational, and transactional applications and the underlying networking systems to support them.

Network Operations & Management

This committee (CNOM) focuses on network and service operations and management. It encourages the exchange of information on the operational and technical management aspects of public and private networks for voice, data, image, and video, and organizes and sponsors publications and discussions of these topics. Specific technical interests include automation of network operations, customer network management and control, knowledge-based technologies, real-time management of networks, network-operations architecture, service management, and end-to-end management across several jurisdictional boundaries.

Optical Networking

The committee will serve as ComSoc's focal point in the area of optical networking technologies and play an active role in stimulating/organizing leading-edge optical networking symposia, workshops, sessions and tutorials serving OFC and other premier M&C venues. ONTC will also serve as a proactive facilitator in the dissemination of evolving optical networking standards by working closely with standards forums such as OIF, IETF, and ITU/T1.

Power Line Communications

The Committee sponsors conference sessions, special issues, workshops, tutorials, and promotes the dissemination of technical information in the broad area of communications over power lines. Our primary goal is to serve as a focal point for all activities in the area of power line communications.

Radio Communications

This committee sponsors and promotes technical papers, workshops, and tutorials on the engineering aspects of communications systems, equipment, and operation in which electromagnetic transmission through space near the earth's surface is the dominant factor. Specifically included are systems in which the transmission follows the surface or takes place within the atmosphere of the earth. Technologies are considered for point-to-point, point to multipoint, mobile radio, and personal communications radio access. Commercial band broadcasting and space communications are outside the scope of the Committee.

Satellite & Space Communications

This committee facilitates technical exchange in the field of satellite and space communications and maintains a keen interest in the development and maintenance of standards in this area. It explores the evolution of new satellite and space-based systems and the application of new and emerging technologies.

Signal Processing & Communications Electronics

This committee (SPCE) sponsors papers, participates in the organization of conferences, and promotes technical workshops on those aspects of communications that pertain to the innovation, development and application of algorithms and electronic and photonic devices or subsystems for generation, processing, storage, transmission, recovery, and presentation of communications signals. In so doing, the committee also has as a goal the professional development of committee members and other practitioners that work in the above areas.

Tactical Communications & Operations

The mission of this committee is to sponsor conferences, workshops, technical sessions, publications, professional meetings, and standards on all aspects of tactical communications and operational situation management in military, homeland defense, and disaster recovery application areas. It provides a forum for members to exchange ideas, techniques, and applications, and share experience among researchers and engineers. Its areas of interest include military communication infrastructures including tactical radio, landline, mobile and space communications; advanced battlespace command and control models, including, C4ISR, net-centric operations, asymmetric warfare, special operations command; surveillance, monitoring and control, including target identification, tracking and signal intelligence; homeland security management infrastructures, models, and architectures; disaster rescue, recovery and support missions; operational situation management, including situation awareness, decision support, information fusion, situation control, situation prediction, and situation management architectures and engineering solutions; semantic information processing, including semantic modeling, ontologies, knowledge representation, semantic modeling languages, tools, and platforms.

Transmission, Access, & Optical Systems

This committee sponsors and organizes papers, conference sessions, workshops and standards development relating to both optical and metallic guided media transmission and access systems for the transport of speech, data, and visual information of any bandwidth. Specific areas of interest include: testing and performance of analog and digitally transmitted signals; systems and equipment for subscriber access over fiber, coaxial cable, and twisted copper pairs; analog and digital subscriber lines over wires and interfaces to wireless media; inductive coordination and electrical protection of wired media; network synchronization; and development of IEEE-oriented standards.

Wireless Communications

The mission of the committee TCPC is to sponsor publications, conferences, technical sessions, workshops, and other information exchanges on architectures, applications, systems, terminals and technologies to provide personal, location-independent communication and computing in voice, data and visual media. Its areas of interest include techniques for achieving portability, ubiquity and transparency using wireless networks ranging from microcellular to satellite, and wired networks ranging from narrow to broadband.

A

Ababnah, Ahmad . . . 45
Abboud, Khadige . . . 34
Abdallah, Mohamed . . . 33
Abdallah, Walid . . . 36
Abdrabou, Atef . . . 49
Abdullah, Ahmad Ali . . . 34
Abe, Tetsushi . . . 16, 38
Abeida, Habti . . . 21
Aboelfotoh, Hosam . . . 13
Abou El-Nasr, Mohamad . . . 52
Abouelseoud, Mohamed . . . 46
Abramson, Norm . . . 65
Abrougui, Kaouther . . . 49
Abry, Patrice . . . 46
Abu Ali, Najah . . . 62
Abuhmed, Tamer . . . 19
Abu-Surra, Shadi . . . 46
Achir, Nadjib . . . 36
Achtzehn, Andreas . . . 37
Adam, Helmut . . . 29, 34
Addepalli, Sateesh . . . 42
Adibi, Ali . . . 16
Adinoyi, Abdulkareem . . . 22
Adve, Raviraj . . . 16
Affes, Sofiene . . . 27, 33, 42, 48
Afroz, Farhana . . . 29
Agarwal, Anjali . . . 13
Agarwal, Avesh K. . . . 50
Agarwal, Pranav . . . 26
Agarwal, Rajiv . . . 22
Aghdam, Amir . . . 28
Agrawal, Dharma P. . . . 29, 39
Agrawal, Prathima . . . 31
Aguayo-Torres, M. Carmen . . . 31
Aguero, J.C. . . . 49
Ahmadi-Shokouh, Javad . . . 22
Ahmed, Mohamed H. . . . 43, 53, 56
Ahmed, Shakeel . . . 19
Ahmed, Tarem . . . 24
Ahn, Jae Y. . . . 48
Ahsin, Tafzeel ur Rehman . . . 57
Aissani, Mohamed. . . . 30, 54
Ait-Idir, Tarik . . . 58
Ajib, Wessam . . . 33
Akansu, Ali . . . 62
Akbar, Muhammad Ali . . . 51
Akgun, Mete . . . 35
Akhaee, Mohammad Ali . . . 50
Akin, Sami . . . 17
Akkaya, Kemal . . . 45
Akl, Selim . . . 59
Akon, Mursalin . . . 25
Akyildiz, Ian F. . . . 13, 17, 62, 66
Al-Ahmadi, Saad . . . 43
Al-Dhahir, Naofal . . . 20, 22, 42
Al-Dubai, Ahmed Y. . . . 24
Al-Fuqaha, Ala . . . 49
Al-Naffouri, Tareq Y. . . . 41
Al-Safadi, Ephrahim B. . . . 41
Al-Zubaidy, Hussein . . . 55
Al-Zubi, Raed . . . 49
Alahmad, Mahmoud . . . 18
Alamri, Osamah. . . . 56
Alasti, Mehdi . . . 28
Alemseged, Yohannes D. . . . 15
Alfa, Attahiru S. . . . 58
Ali, Bader. . . . 35
Ali, Kashif . . . 13
Ali, Mohamed . . . 56
Alimohammad, Amirhossein . . . 26
Allan, Jr., Edward G. . . . 50
Allen, George J. . . . 7
Alonso, Luis . . . 35
Alonso-Zarate, Jesus. . . . 35
Alouini, Mohamed-Slim . . . 21, 25, 27, 63
Alshanyour, Ahed . . . 13
Aly, Fouad . . . 26
Aman, Muhammad . . . 42
Amaral, Pedro . . . 46
Amin, Moeness G. . . . 43
Amoozegar, Farid. . . . 16
Amorim, Claudio . . . 25
Anarim, Emin . . . 35
Anderson, Brian D.O. . . . 29, 45, 50
Anderson, Eric. . . . 45
Andrei, Dragos . . . 15
Andrews, Jeffery G. . . . 14, 46, 49, 55
Anedda, Paolo . . . 14
Angelopoulos, Constantinos Marios . . . 18
Anjali, Tricha . . . 50
Ano, Shigehiro . . . 46
Anpalagan, Alagan. . . . 26
Ansari, Nirwan. . . . 31, 60
Antichi, Gianni. . . . 14, 15, 35, 41
Aoun, Rosy . . . 50
Araki, Shoko . . . 41
Arato, Zoltan . . . 46
Araujo, Regina. . . . 23
Aref, Mohammad Reza . . . 56
Armada, Ana Garcia. . . . 32
Arslan, Huseyin . . . 37
Arslan, Suayb S. . . . 57
As Sadhan, Basil . . . 30
Ascheid, Gerd . . . 16, 57
Askarian, Amir. . . . 20
Asorey-Cacheda, Rafael . . . 57
Assra, Ayman . . . 27
Assuncao, Claudio. . . . 46
Atapattu, Saman . . . 48
Atiquzzaman, Mohammed. . . . 23, 28
Atitallah, Nesrine . . . 27
Attar, Alireza . . . 58
Attar, Rashid . . . 17
Atzori, Luigi. . . . 14, 45
Au, Edward K.S. . . . 52
Augé-Blum, Isabelle . . . 13
Avin, Chen . . . 46
Awad, Mohamad Khattar . . . 23, 28
Awoseyila, Adegbenga. . . . 16
Awwad, Falah . . . 18
Awwad, Osama . . . 49
Ayanoglu, Ender . . . 38
Azarnasab, Ehsan . . . 42

B

Baba, Masayuki . . . 25
Babich, Fulvio . . . 59
Baccichet, Pierpaolo . . . 14
Badache, Nadjib . . . 30, 54
Badawy, Ghada H. . . . 24
Badia, Leonardo . . . 24
Baek, Joo-Young . . . 24, 40
Bahk, Saewoong . . . 18, 40, 44
Bai, Bo. . . . 17, 38
Bai, Yong. . . . 44
Bai, Zhiquan . . . 52
Balasingham, Ilangko . . . 23
Balasubramaniam, Sasitharan. . . . 20
Baltus, Peter . . . 18
Bambos, Nicholas . . . 36
Bao, Wei . . . 57
Barbero, Angela I. . . . 36
Barhumi, Imad . . . 21
Barnes, Richard. . . . 11
Bar-Ness, Yeheskel . . . 53
Barros, Joao . . . 14
Barry, John R. . . . 53, 62
Barthel, Dominique . . . 13
Basagni, Stefano . . . 13, 55
Basar, Tamer . . . 23, 38
Bashar, Shafi . . . 28
Bashir, Yusuf . . . 54
Basir, Otman . . . 34
Bassow, Erhard . . . 36
Basyouni, Ayda . . . 34
Batalama, Stella N. . . . 31
Bauch, Gerhard . . . 16, 38, 47
Bauer, Kevin . . . 45
Baykas, Tuncer . . . 27, 54
Bdira, Elyes . . . 13
Beaulieu, Norman C. . . . 13, 31, 49, 53, 58
Bekkali, Abdelmoula . . . 36
Belanger, David G. . . . 7
Belbekkouche, Abdeltouab . . . 26
Bellaiche, Martine . . . 30
Bellili, Faouzi . . . 27, 42
Bellusci, Giovanni . . . 45
Ben Hassen, Sonia . . . 42
Ben Slimane, Slimane . . . 57
Ben-Ameur, Walid . . . 50
Bengtsson, Mats . . . 27, 53
Benhaddou, Diss . . . 49
Benjillali, Mustapha . . . 51
Benkoczi, Robert . . . 59
Bennis, Mehdi . . . 26
Ben-Othman, Jalel. . . . 13, 49
Bensaou, Brahim. . . . 18, 29
Benyamina, Djohara . . . 55
Beres, Elzbieta. . . . 16
Berger, Stefan . . . 13
Bernardo, Luis. . . . 46
Bertin, Philippe . . . 23
Bertolini, Marco. . . . 31
Bertran-Pardo, Oriol . . . 31
Besnier, Philippe . . . 43
Betser, Joe. . . . 9
Bettstetter, Christian . . . 29, 34
Beuran, Razvan . . . 34
Beyaztas, Zafer . . . 25
Bhanage, Gautam . . . 34
Bhargava, Vijay . . . 33
Bhat, Uttam . . . 36
Bi, Guangguo . . . 37
Bi, Jingping . . . 45
Bian, Tao . . . 50
Bianco, Andrea . . . 20, 41
Bigo, Sebastien . . . 31
Bilgic, Attila . . . 45
Bin, Liu . . . 19
Bin, Zhang . . . 35
Bing, Benny. . . . 33, 40, 61
Birke, Robert . . . 56
Bisio, Igor . . . 18, 21
Biswas, Subir . . . 37
Bjelakovic, Igor . . . 46
Bjornson, Emil. . . . 22
Black, Peter . . . 17
Block, Fred . . . 17
Blostein, Steven . . . 21, 32
Bo, Cheng . . . 19
Boche, Holger . . . 17, 46, 52
Bocus, Mohammud Z. . . . 33
Bogan, Kevin . . . 66
Bohnert, Thomas Michael . . . 12, 63
Boleng, Jeff . . . 40
Bolla, Raffaele . . . 15, 36
Boloor, Keerthana . . . 50
Bonald, Thomas . . . 24
Bonjour, Servane . . . 23
Bonnet, Christian. . . . 15
Bonnin, Jean-Marie . . . 23, 59
Bonola, Marco . . . 23
Bononi, Alberto . . . 25
Borah, Deva K. . . . 36
Boreli, Roksana . . . 21
Borgnat, Pierre . . . 46
Borin, Juliana . . . 24
Borlenghi, Filippo . . . 57
Bormann, Carsten . . . 18
Bose, Tamal. . . . 24
Botvich, Dimitri . . . 20
Bouabdallah, Amine . . . 33
Bouabdallah, Nizar . . . 18
Bouckaert, Stefan . . . 29
Boudriga, Noureddine . . . 36
Boujelben, Mohamed Ali . . . 27
Boukerche, Azzedine . . . 23, 45, 49, 54
Bourdoux, Andre . . . 22
Bousquet, Michel . . . 33
Boussetta, Khaled . . . 36
Boutaba, Raouf . . . 29, 34
Boutillon, Emmanuel . . . 38
Boyd, Steven W. . . . 37
Brahma, Swastik . . . 44
Branca, Giovanni . . . 45
Brandes, Sinja . . . 42
Brandt-Pearce, Maite. . . . 20
Brauchle, Joschi . . . 36
Breitenbach, Markus . . . 45
Breuer, Dirk. . . . 31
Bronson, Steven . . . 59
Brossier, Jean-Marc . . . 21, 47
Broustis, Ioannis . . . 45
Brown, Jeremy . . . 54
Brown, Timothy X. . . . 43, 66
Bruschi, Roberto . . . 15, 36
Bshara, Mussa . . . 11
Buchacher, Clemens . . . 22
Buehrer, R. Michael . . . 31, 37, 43, 50, 52
Bulut, Eyuphan . . . 13, 29
Burbank, Jack L. . . . 10
Burton, Joe . . . 7
Busanelli, Stefano . . . 59

C

Cabric, Danijela . . . 42
Caesar, Matthew . . . 39
Caglayan, Mehmet Ufuk . . . 35
Cai, Chaoli . . . 24
Cai, Jun . . . 58
Cai, Lin . . . 34
Cai, Zhuhua . . . 14
Callaway, Bob . . . 50, 64
Campelli, Luca. . . . 18
Candreva, Alberto . . . 21
Cao, Bin. . . . 27
Cao, Jiannong . . . 13, 29
Cao, Lei . . . 27
Cao, Xiaojun . . . 15, 26, 47
Cao, Yi. . . . 46
Cao, Zhigang . . . 17, 38, 48, 49
Cappitelli, Mario . . . 36
Careglio, Davide . . . 41
Carle, Georg . . . 15
Carroll, Ray . . . 20
Cartwright, Kenneth V. . . . 38
Carvalho, Joao Paulo . . . 52
Cascarano, Niccolo . . . 36
Casier, Koen . . . 61, 64
Castoldi, Piero. . . . 39, 50
Celebi, Hasari . . . 21
Cello, Marco . . . 18
Cerutti, Isbella. . . . 39
Cesana, Matteo . . . 18, 26
Chafnaji, Houda. . . . 58
Chai, Xudong. . . . 56
Chakrabartty, Shantanu . . . 46
Chakravarthy, Vasu . . . 42
Champagne, Benoit . . . 42
Chan, Agnes . . . 67
Chan, Sammy . . . 24
Chan, Vincent V.S. . . . 15
Chandrasekaran, Gayathri . . . 30
Chandrasekhar, Vikram . . . 46, 49
Chang, Ben-Jye . . . 28
Chang, Chung-Ju . . . 33, 42
Chang, Seok-Ho . . . 33
Chang, Shih Yu . . . 32, 43, 58
Chang, Tsung-Hui . . . 32
Chang, Wang-Rong. . . . 56
Chao, H. Jonathan. . . . 40, 45
Chao, Han-Chieh . . . 45
Charlet, Gabriel . . . 31
Charrua, Luis. . . . 57
Chatterjee, Asok . . . 10, 12
Chatterjee, Mainak. . . . 44, 45
Chattopadhyay, Siddhartha . . . 45
Chatzidiamantis, Nestor D. . . . 36
Chebli, Lena . . . 30
Chen, Biao. . . . 41, 46
Chen, Chan . . . 14
Chen, Chao . . . 32
Chen, Feng . . . 15
Chen, Gen-Huey . . . 29
Chen, Guihai . . . 13
Chen, Haiming. . . . 13
Chen, Hongyang . . . 45
Chen, Hsiao-Hwa . . . 16, 39, 48, 53, 58
Chen, Jianer . . . 20, 50
Chen, Jianfeng . . . 54
Chen, Jieying. . . . 17
Chen, Jiming. . . . 13, 18, 50

Chen, Jun 14
Chen, Junliang 40
Chen, Kai 46
Chen, Kwang-Cheng 61
Chen, Lan 44
Chen, Liang 31
Chen, Ming 56
Chen, Ming-Syan 32
Chen, Qing 35
Chen, Rong-Rong 42
Chen, Ruichuan 14
Chen, S. 22
Chen, Shan 18
Chen, Shuping 44
Chen, Siyuan 23
Chen, Song-Ming 56
Chen, Tao 47
Chen, Wanshi 44, 53
Chen, Wei 17, 38, 42, 48, 49
Chen, Wen 42, 43, 47
Chen, Xiang 27
Chen, Xiaomin 15
Chen, Xuetao 24
Chen, Yan 46
Chen, Yingying 54
Chen, Yuanzhu Peter 28
Chen, Yuh-Shyan 49
Chen, Yu-Hsun 29
Chen, Zesheng 36
Chen, Zhong 14
Cheng, Bo 40
Cheng, H.T. 22
Cheng, Ho Ting 39
Cheng, Hong 64
Cheng, Michael K. 46
Cheng, Ning 41
Cheng, Xiang 27
Cheng, Yu 50, 51, 56, 58
Cheng, Yuu-Heng 46
Cherkaoui, Soumaya 49
Cherubini, Giovanni 26
Cheung, Ray 24
Chew, Yong Huat 22, 44
Chi, Chen 35
Chi, Chong-Yung 32
Chi, David W. 53
Chiang, Mung 19, 25
Chiang, Tsung-Wei 57
Chiani, Marco 46, 52, 61
Chiasserini, Carla-Fabiana 18
Chieochan, Surachai 39
Chin, Francois 52
Chin, Tai-Lin 45
Chinen, Ken-Ichi 34
Chisci, Luigi 30
Chiti, Francesco 17
Chiu, Eddy 56
Chiu, Mao-Ching 36
Chiueh, Tzi-Dar 57
Cho, Joon Ho 47
Cho, Kyong-Tak 18
Cho, Yongjin 35
Chockalingam, Ananthanarayanan 26, 38
Choi, Bong Jun 58
Choi, Chan-Ho 48
Choi, DooWhan 5, 9
Choi, Hyoung-Kee 45
Choi, Jinho 52
Choi, Joonho 25
Choi, Jun Won 47
Cholda, Piotr 40
Chong, Song 19, 40
Chopra, Aditya 21
Chou, Wu 40
Chowdhury, Pulak 20
Christensen, Ken 63
Christman, Cody 12
Christodoulopoulos, Kostas 15
Chu, Xiaowen 30, 54
Chua, Kee Chaing 20
Chuai, Gang 57
Chuang, Yi-Ta 57
Chuang, Yue-Ru 39
Chun, Mark 9
Chung, Sang-Hwa 13
Chung, Sungwook 32
Chung, Wen-Ching 33
Ci, Song 18
Cideciyan, Roy D. 26
Cimini, Jr., Leonard J. 58
Cioffi, John M. 22, 27, 29, 33, 43, 51, 65
Cirani, Simone 14
Cirpan, Hakan Ali 37
Clausen, Axel 9
Cockburn, Bruce 26
Codreanu, Marian 25
Colas, Maxime 57
Collings, Iain B. 16, 33
Coloe, John 66
Coluccia, Angelo 20, 46
Comisso, Massimiliano 59
Conde-Canencia, Laura 38
Constantinou, Constantinos 31
Coon, Justin P. 33, 53
Cooper, Reginald 22
Corazza, Giovanni Emanuele 16, 21, 27
Cornolti, Marco 15
Coronado, Etienne 49
Corvaja, Roberto 32
Cosman, Pamela C. 33, 37, 57
Costello, Daniel 30
Cowley, William G. 20, 21
Cox, Donald 41
Crnojevic, Vladimir 17
Crotti, Manuel 31
Cruz-Perez, Felipe 24
Cugini, Filippo 50
Cui, Jingwu 25, 47
Cui, Li 13
Cui, Shuguang 46, 51
Cui, Ying 22
Cunche, Mathieu 35, 40
Custers, Stefan 50

D

D'Alconzo, Alessandro 20, 46
D'Amico, William 39
d'Heureuse, Nico 15, 40
da Silva, Claudio R.C.M. 43, 50
Dai, Guanzhong 56
Dai, GuoJun 23
Dai, Huaiyu 47
Dai, Jufeng 29
Dai, Lillian 42
Dai, Linglong 47
Damen, Mohamed Oussama 32
Dammann, Armin 43
Damnjanovic, Aleksandar 44
Daneshmand, Ali 27
Daneshmand, Mahmoud 49
Daneshrad, Babak 53
Dang, Uyen Ly 32
Dang, Wenbing 17
Danilewicz, Grzegorz 41
Dao, Ngoc-Dung 32
Dardari, Davide 45
Das, Nibedita 23
Das, Pankaj 53
Dat, Pham Tien 36
Datla, Dinesh 24
Davoli, Franco 15, 49
de Abreu, Giuseppe T.F. 34
de Amorim, Marcelo Dias 50
de Fonseca, Nelson L.S. . . . 15, 24, 30, 40, 51, 56
De Cola, Tomaso 18, 45
de Marca, Roberto 67
De Mil, Pieter 29
De Poorter, Eli 29
De Schepper, Koen 50
De Turck, Filip 50
De Vleeschauwer, Bart 50
Debbah, Merouane 26
DeFaria, Mark 33
Dehghani, Nazanin 55
Dejardin, Romain 57
Dell'Amico, Gabriele 47
Demeester, Piet 29, 50
Demigha, Oualid 54
Deneire, Luc 20
Deng, Hongmei 19
Deng, Jing 54
Denko, Mieso K. 19, 45, 50
Denno, Satoshi 48
Deshpande, Naveen 14
Desmond, Celia 62, 67
Destino, Giuseppe 45
Devetsikiotis, Michael 35, 64
Dey, Sujit 36
Deymious, John-Austen 30
Dhara, Krishna Kishore 30
Dhillon, Harpreet 31
Dhurandher, Sanjay K. 55
Di Marco, Piergiuseppe 18
Di Pietro, Andrea 14, 15, 35, 41
Di Renzo, Marco 48
Dianati, Mehrdad 28
Dias, Ugo 27
Diehm, Fabian 27
Dietl, Guido 32
Dietrich, James 22
Dimakis, Alexandros 57
Dimitriou, Nikos 32, 33
Dimitrov, Svilen 36
Ding, Lianghui 36
Ding, Zhi 28, 42
Ding, Zhiguo 16, 19
Dittmann, Lars 42
Divjak, August 54
Divsalar, Dariush 46
Diwakar, Khushboo 55
Djahel, Soufiene 50
Djebbar, Mohamed 30
Dogan, Hakan 37
Dohler, Mischa 13
Dolan, Mike 10
Dolinar, Sam 46
Dolmans, Guido 18
Domzal, Jerzy 40
Donado, Fernando Solano 20
Dong, Jiangtao 54, 56
Dong, Liu 12
Donnelly, William 20
Dore, Jean-Baptiste 38
Dorsinville, Roger 56
Dou, Haie 47
Dowman, Ian 66
Doyle, Linda E. 37
Drummond, Andre 15, 40
Du, Qinghe 44
Du, Xiaojiang 19, 45
Duan, Guihua 50
Duman, Tolga M. 36, 38, 61
Duraisamy, Poomathi 25
Duran, Deborah D. 27
Durrani, Salman 57
Durresi, Arjan 19
Dutkiewicz, Eryk 28, 31
Dutta, Rudra 20
Dwertmann, Christoph 21

E

Eberle, Hans 36
Edfors, Ove 48, 51
Effenberger, Frank 8
Eftekhar, Ali 16
Egashira, Ryota 30
Eggert, Lars 63
Eghbali, Homa 22
Ehtiati, Neda 42
Ekin, Sabit 21
Ekrem, Ersen 55
El Gamal, Aly 56
El Gamal, Hesham 56
El Zein, Ghais 43
El-Hajjar, Mohammed 56, 57
El-Keyi, Amr 42
Elbaize, Halima 26
Elbes, Mohammed 49
Elbiaze, Halima 26
Eleftheriou, Evangelos 26
Elkashlan, Maged 16
Ellinas, Georgios 56
Elmallah, Ehab S. 29
Elmenreich, Wilfried 34
Elwhishi, Ahmed 58
Emad, Amin 31
Enteshari, Ali 47
Entrambasaguas, J. Tomas 31
Ephremides, Anthony 31, 46
Epple, Ulrich 42
Ergen, Sinem Coleri 18, 45
Ergin, Fatma Corut 20
Eriksson, Per-Erik 9
Erkip, Elza 54
Erlebach, Thomas 56
Esaki, Hiroshi 12
Eslambolchi, Hossein 5
Esposito, Flavio 20
Esser, Robert 37
Este, Alice 36
Estrello, Carmen Rodriguez 24
Evans, Barry 16
Evans, Brian L. 21
Evans, Jamie 31
Evans, Joseph B. 42

F

Fadlullah, Jarir M. 47
Fahmy, Suhaib A. 37
Falconer, David 22
Fallon, Sheila 23
Fan, Lisheng 16, 26
Fan, Yanfei 39
Fang, Xi 33
Fang, Yan-Chi 28
Fang, Yuguang 15, 49
Fantacci, Romano 17, 30, 49
Fapojuwo, Abraham 22
Farago, Andras 29, 55
Farajidana, Amir 44
Fard, Saeed Fouladi 26
Farhang-Boroujeny, Behrouz 42
Farhi, Lubna 43
Farkas, Janos 46
Farokh, Marvasti 50
Farooq, Muddassar 51
Farrag, Osama 39, 50
Fathallah, Habib 31
Faulkner, Michael 21
Fayed, Marwan 55
Fei, Xin 23
Feizi, Soheil 41
Femenias, Guillem 52
Feng, Chen 42
Feng, Gang 18
Feng, Kai-Ten 13, 26
Fereydouni-Forouzandeh, Fariborz 18
Fernandez-Veiga, Manuel 41
Fernando, Xavier 61
Ferrari, Gianluigi 54, 59
Fertonani, Dario 36, 38
Fettweis, Gerhard 27, 52, 54, 55, 63
Ficara, Domenico 14, 15, 35, 41
Figueiredo, Gustavo C. 51
Firrincieli, Rosario 16
Fischione, Carlo 18
Fisher, Kevin 9
Fitzek, Frank 60
Flanagan, Mark F. 36, 46
Flegkas, Paris 15
Fleming, Phil 26
Fleury, Bernard 20
Fodor, Gabor 28, 63
Fossorier, Marc 36, 46
Fouda, Mostafa 24
Fournier, Jean-Michael 43
Frangieh, Tannous 47
Fricke, Matthias 8
Fritzsche, Daniel 31
Frotzscher, Andreas 52
Frye, J. Michael 37
Fu, Fangwen 60
Fu, Huirong 35

Fu, Jian 47
Fu, Luoyi 18
Fu, Shengli 17, 53
Fu, Weihuang 39
Fuja, Thomas 30
Fujimoto, Yukihiro 42
Fujimura, Takeshi 14
Fujino, Tadashi 57
Fukawa, Kazuhiko 48
Fulp, Errin W. 50
Funada, Ryuhei 27, 54

G

Gaal, Peter 53
Gagnaire, Maurice 50
Gallardo, Jose 13
Galluccio, Laura 54
Gambini, Jonathan 37
Gamer, Thomas 24
Gan, Xiaoying 47
Ganapathy, Vinod 30
Ganesan, Thiagarajan 41
Ganguly, Anurupa 15
Ganhao, Francisco 46
Ganjali, Yashar 52
Gao, Feifei 21, 32
Gao, Jingbo 38
Gao, Lin 47
Gao, Lixin 51
Gao, Long 46
Gao, Na 14
Gao, Xiqi 32
Garcia-Luna-Aceves, Jose Joaquin . . . 34, 44, 59
Garg, Hari Krishna 21, 53
Garroppo, Rosario G. 23, 44, 51
Gasiewski, Al 66
Gatherer, Alan 49
Gatti, Nicola 26, 47
Gburzynski, Pawel 34
Ge, Meng 35
Ge, Yuming 31
Gebali, Fayez 34, 39
Gelle, Guillaume 57
Geller, Benoit 25
Geodeon, Ibrahim 6
Genc, Vasken 39
Gendreau, Michel 26, 55
Gentile, Camillo 16, 22
Gerstacker, Wolfgang H. 32
Gesbert, David 22, 25
Ghaboosi, Kaveh 34
Ghaemmaghami, Shahrokh 50
Ghaffar, Rizwan 20
Ghanbarinejad, Majid 34
Ghani, Nasir 47
Ghassemzadeh, Saeed 54
Ghayoori, Armin 15
Ghazisaeidi, Amirhossein 25, 31
Ghazisaidi, Navid 41
Ghobadi, Monia 52
Ghorbani, Ali A. 46
Ghosh, Amitava 8
Ghosh, Pavel 23
Ghrayeb, Ali 48, 61
Giacomazzi, Paolo 17, 51
Giarre, Laura 59
Gifford, Wesley M. 43
Giladi, Ran 46, 63
Gil-Castineira, Felipe 57
Giles, James 41
Gillard, Paul 17
Ginis, George 9
Giordano, Stefano 14, 15, 23, 35, 41, 44, 51
Girard, Andre 39
Girod, Bernd 14
Giupponi, Lorenza 52
Gkelias, Athanasios 24
Glitho, Roch 60
Gobriel, Sameh 23
Goldsmith, Andrea 20, 51, 52
Gomaa, Ahmad 33
Gomes, Pedro Henrique 56
Gomi, Kazuhiro 12
Goncalves, Victor 57
Gong, Guang 19, 25
Gong, Haigang 13
Gong, Jie 27
Gong, Xitao 16
Gonzalez-Castano, Francisco Javier 57
Goodwin, G.C. 49
Goossens, Kees 36
Gopalakrishnan, Sathish 39
Gordejuela-Sanchez, Fernando 14, 55
Gottumukkala, V.K. Varma 53
Gou, Tiangao 16
Gowda, Kiran Thimme 41
Gowens, John 59
Goyal, Mukul 54
Gozdecki, Janusz 34
Granelli, Fabrizio 30, 56
Graziosi, Fabio 48
Greenfield, Rich 9
Gregoire, Jean-Charles 30
Gribaudo, Marco 18
Grieger, Michael 27
Gringoli, Francesco 31, 36
Grokop, Lenny 44
Gross, Warren J. 46
Grover, Wayne D. 52
Grudic, Greg 45
Grunwald, Dirk 45
Gruteser, Marco 30
Gu, Bo 45
Gu, Jing 16
Gu, Ming . . . . . 35 ,46
Gu, Yanying 28
Gu, Yu 45
Guan, Xiaohong 50
Guan, Xinping 48, 56
Guerrini, Eleonora 47
Gueye, Assane 45
Guirguis, Mina 40, 56
Guizani, Mohsen 24, 44, 49, 53
Gulati, Kapil 21
Gumaste, Ashwin 47, 52
Gunduz, Deniz 51
Guo, Bin 58
Guo, Dongning 25
Guo, Hui 39
Guo, Li 24, 35
Guo, Minyi 50
Guo, Song 50
Guo, Wei 20
Guo, Y. Jay 32
Guo, Yang 19
Guo, Yu 46
Guok, Chin 47
Gupta, Aakash 24
Gupta, Mukta 55
Gupta, Pooja 55
Gupta, Vijay 51
Gura, Nils 36
Gurses, Eren 29
Gursoy, Mustafa Cenk 17, 31
Gusat, Mitchell 56
Gusmao, A. 57
Gutierrez, Jr., Felix 22
Guvenc, Ismail 37

H

Ha, Jeongseok 14
Haas, Harald 36
Haas, Jason J. 50
Haas, Jason S. 32
Habuchi, Hiromasa 36
Haccoun, David 33
Hachem, Walid 56
Hadjiantonis, Antonis 56
Haenggi, Martin 51
Hafid, Abdelhakim 26, 55
Haghpanahi, Masoumeh 18
Haimovich, Alexander M. 58
Hain, Tony 12
Hajiesmaili, Mohammad H. 25
Hajshirmohammadi, Atousa 57
Halkidi, Maria 54
Hamalainen, Jyri 53
Hamdaoui, Bechir 53
Hamdi, Mohamed 36
Hamieh, Ali 49
Hammarberg, Peter 51
Hamon, Marie-Helene 47
Hamouda, Walaa 27, 34
Han, Chan-Kyu 45
Han, Chuan 58
Han, Huy-Dung 42
Han, Shengqian 27
Han, Yunghsiang 54
Han, Yuxing 42
Han, Zhu 14, 23, 61
Hanley, Austin 23
Hansen, Morten 57
Hanzo, Lajos 22, 27, 48, 56, 57, 60
Hara, Shinsuke 50
Harada, Hiroshi 15, 27, 54
Harada, Shigeaki 30
Hardjawana, Wibowo 21
Harshan, Jagadeesh 55
Hartmann, Christian 34
Hasegawa, Haruhisa 14, 30, 51
Hasegawa, Teruyuki 36
Hashim, Fazirulhisyam 24
Hashimoto, Akinori 16
Hashimoto, Kazuo 35
Hashimoto, Takayuki 17
Hashmi, Ali 16
Hassan, Syed Ali 57
Hassanabadi, Behnam 34
Hassanein, Hossam S. 13, 29, 54, 59, 62
Hassibi, Babak 57
Hausheer, David 8
Hausl, Christoph 30
Hausner, Josef 45
Hay, David 41
Hayashi, Hiroaki 34
Hayashi, Kazunori 17
Hayashi, Takanori 51
He, Bing 29
He, Chen 26, 30, 45
He, Di 47
He, Fangming 30
He, Shibo 18
He, Xiang 41
Heath, Jr., Robert W. 14, 63
Hecker, Artur 25
Hedley, Mark 19
Hegde, Nidhi 24
Hei, Yuichiro 46
Heile, Bob 9
Helmy, Ahmed 29
Hemati, Saied 46
Herreria-Alonso, Sergio 41
Heskamp, Marnix 37
Hessel, Sebastian 45
Heydari, Babak 56
Hieu, Dinh Chi 34
Higashino, Takeshi 36
Hijazi, Hussein 37
Hill, Tony 12
Himayat, Nageen 58
Hjalmarsson, Hakan 18
Hjørungnes, Are 16, 23, 48
Ho, Jan-Ming 32
Ho, Paul 48, 52
Ho, Pin-Han 19, 58
Hoang, Anh Tuan 52
Hottman, Markus 66
Hoffmann, Oliver 19
Hollick, Matthias 29
Hong, Een-Kee 48
Hong, Jun 24
Hong, Se Gi 19
Hong, Xiaoyan 29, 45
Hong, Y.W. Peter 32
Hong, Young-Jun 58
Hong, Zhihong 53
Honig, Mike 25
Hoque, Mohammad 29
Horlin, Francois 22
Hormis, Raju 42
Hosny, Wael 26
Hossain, Ekram 18, 22, 39, 49, 61
Hossain, Md Shohrab 28
Hosseini, Hossein 54
Hou, Fen 24
Hou, Xiaolin 27
Howard, William 13
Howarth, Michael 46
Hoyhtya, Marko 47
Hsing, Russell 64
Hsu, Yu-Pin 26
Hu, Chao 42
Hu, Chengchen 46
Hu, Chia-Cheng 29
Hu, Donglin 49
Hu, Hongjie 42
Hu, Jia 19
Hu, Jinglong 54, 56
Hu, Li 28
Hu, Weihong 54
Hu, Weisheng 20
Hu, Wuhua 41
Hu, Xinwei 27
Hu, Yih-Chun 32, 50
Hu, Yue 40
Hu, Yuhen 50
Hu, Yusuo 14
Hua, Sha 19
Hua, Yao 59
Huang, Baoqi 50
Huang, Bill 8
Huang, Changcheng 19
Huang, Ching-Ling 34
Huang, Chuan 51
Huang, Dijiang 35, 55
Huang, Hong 57
Huang, Jianwei 17, 26, 51
Huang, Jiawei 39
Huang, Jie 51
Huang, Ming-Hung 30
Huang, Qian 55
Huang, Renxiang 35
Huang, Shu 20
Huang, XiaoHong 20
Huang, Xiaojing 32
Huang, Yi 28
Huang, Yingsong 25
Huang, Yung-Fa 28
Hublet, Christian 50
Huemer, Mario 22
Hui, Hui 22
Huici, Felipe 40
Hukill, Mark 9
Hung, Ka-Lok 18, 29
Hutchins, Robert 26
Hwang, Hae Gwang 17
Hwang, Kai 40
Hwang, Ren-Hung 28
Hwang, Zion 30

I

Iacono, Davide 44
Iapichino, Giuliana 15
Ibars, Christian 52
Ibing, Andreas 52
Ibnkahla, Mohamed 13
Ige, David 9
Ikki, Salama S. 43, 53, 56
Im, Gi-Hong 48
Imamura, Jun 48
Imbriglio, Laura 48
Ingram, Mary Ann 44, 57
Inoue, Ichiro 40
Iraji, Mohammad Bagher 56
Ishibashi, Koji 17
Ishimoto, Tatsuya 50
Islam, Junaid 12
Islam, Mohammad Towhidul 25
Issariyakul, Teerawat 39
Ito, Kenji 34
Itokawa, Kiyohiko 47
Iura, Hiroki 32
Iversen, Villy B. 55

Iyer, Thava . . . 21
Izumikawa, Haruki . . . 18

J

Jacob, Paul . . . 23
Jaeger, Monika . . . 64
Jafar, Syed Ali . . . 58
Jafarkhani, Hamid . . . 51, 58
Jafarpour, Sina . . . 25
Jagasia, Mukesh . . . 55
Jain, Raj . . . 60
Jajszczyk, Andrzej . . . 40
Jakobson, Gabriel . . . 9
Jalaleddini, Seyed Kian . . . 28
Jamalipour, Abbas . . . 24, 29, 59
Jana, Rittwik . . . 49
Jang, Seowoo . . . 44
Janssen, Gerard J.M. . . . 45
Jantti, Riku . . . 42
Janzen, Howard . . . 5
Jaumard, Brigitte . . . 20
Javadi, Bahman . . . 35
Javadi, Farshad . . . 59
Javed, Yousra . . . 50
Je, Hui Won . . . 43
Jelitto, Jens . . . 26
Jensen, Michael . . . 14
Jeong, Han-You . . . 13
Ji, Guang . . . 49
Ji, Hong . . . 31
Ji, Lusheng . . . 49
Ji, Mingyue . . . 44, 59
Ji, Yang . . . 25, 35
Ji, Yiming . . . 45
Ji, Yusheng . . . 42, 45
Jia, Peng . . . 21
Jia, Weijia . . . 19
Jia, Xiaohua . . . 23, 49, 54
Jia, Yuanzhi . . . 27
Jia, Yunjian . . . 27
Jiang, Bin . . . 32, 35
Jiang, Hai . . . 48
Jiang, Jianmin . . . 28
Jiang, Jinhua . . . 51
Jiang, Lei . . . 16
Jiang, Lingge . . . 30, 45
Jiang, Meilong . . . 55
Jiang, Tao . . . 27
Jiang, Weirong . . . 20
Jiang, Xueqin . . . 48
Jiang, Yi . . . 44
Jiang, Yingtao . . . 59
Jiang, Yingxin . . . 40
Jiang, Yixin . . . 30, 39
Jiang, Yongquan . . . 16, 26
Jiang, Yuming . . . 35
Jiang, Yurong . . . 23
Jie, Guo . . . 19
Jin, Depeng . . . 19, 23
Jin, Guang . . . 19
Jin, Shi . . . 32
Jin, Xiaolong . . . 28
Jin, Yan . . . 59
Jin, Yaohui . . . 20
Jindal, Nihar . . . 14, 25
Jo, Ju-Yeon . . . 59
Johansson, Karl Henrik . . . 18
Johansson, Mikael . . . 28, 33
Johnson, Eric . . . 57
Johnson, Russel Allan . . . 17
Jordan, Markus . . . 16
Joshi, Anupam . . . 15
Joshi, Shaunak . . . 24, 42
Jou, Yu-Cheun . . . 17
Joung, Jingon . . . 21
Joyner, Nathan . . . 8
Ju, Suyang . . . 42
Jue, Jason P. . . . 15
Jukan, Admela . . . 15
Jula, Payman . . . 56
Jun, Yang . . . 30
Jung, Peter . . . 22
Jung, Sung-Yoon . . . 52
Jungbluth, George . . . 66
Junliang, Chen . . . 19
Juntti, Markku . . . 53
Jurski, Janusz . . . 21

K

Kabacinski, Wojciech . . . 41
Kaewprapha, Phisan . . . 26
Kaiser, Alexander . . . 46
Kaiser, Arnaud . . . 36
Kalantari, Mehdi . . . 18
Kaldirim, Elif . . . 20
Kamal, Ahmed E. . . . 20, 47
Kamamura, Shohei . . . 40
Kamei, Satoshi . . . 51
Kaminsky, Edit J. . . . 38
Kamiya, Yukihiro . . . 52
Kamiyama, Noriaki . . . 14, 30, 51
Kammler, David . . . 57
Kamruzzaman, Joarder . . . 55
Kaneko, Megumi . . . 17
Kang, Chung G. . . . 48
Kang, Xin . . . 21, 53
Kani, Jun-Ichi . . . 42
Kanno, Norio . . . 27
Kantola, Raimo . . . 63
Kantor, Miroslaw . . . 40, 50
Kapoor, Harsh . . . 35
Karagiannidis, George K. . . . 21, 33, 36
Karamehmedovic, Dzemal . . . 27
Karapetkov, Stefan . . . 9
Karim, Lutful . . . 18
Karimi, Masoumeh . . . 36
Karmouch, Eric . . . 54
Kartalopoulos, Stamatios . . . 14, 60
Kasahara, Kohei . . . 52
Kasera, Sneha Kumar . . . 39
Kashibuchi, Kenichi . . . 28
Kasparis, Christos . . . 16
Katayama, Nozomu . . . 14
Kato, Nei . . . 24, 28, 35
Kato, Shuzo . . . 27, 54
Kato, Yoshiaki . . . 25
Katz, Marcos D. . . . 47, 56
Kaufman, Charlie . . . 62
Kavehrad, Mohsen . . . 47
Kawahara, Ryoichi . . . 30, 51
Kawamura, Ryutaro . . . 63
Kawano, Taichi . . . 51
Kaya, Aliye Ozge . . . 25
Kayama, Hidetoshi . . . 27, 38
Kayran, Ahmet . . . 16
Kays, Ruediger . . . 19
Kazaura, Kamugisha . . . 36
Kazovsky, Leonid . . . 41, 42
Kemppi, Paul . . . 43
Kent, Stephen . . . 10
Kerpez, Kenneth . . . 8
Khalaj, Babak Hossein H. . . . 34
Khalil, Issa . . . 55
Khan, Bilal . . . 49
Khan, Hassan . . . 50
Khan, Samee . . . 15
Khattab, Sherif . . . 23
Khayam, Syed Ali . . . 50
Khayyat, Khalid M.J. . . . 39
Khonsari, Ahmad . . . 25, 55
Khoshnevis, Behrouz . . . 22
Khosravi-Farsani, Reza . . . 56
Kiese, Moritz . . . 34
Kik, Alfred . . . 22
Kim, Byoung-Hoon . . . 63
Kim, Byungseung . . . 40
Kim, Dong In . . . 17
Kim, Eun Ro . . . 23
Kim, Eunsam . . . 32
Kim, Hakyong . . . 19
Kim, Heejin . . . 42
Kim, Hobin . . . 57
Kim, Hun Seok . . . 53
Kim, Hyogon . . . 40
Kim, Hyung-Jung . . . 48
Kim, Il-Min . . . 56
Kim, In-Hwan . . . 45
Kim, Jae Hyung . . . 48
Kim, Je Woo . . . 57
Kim, Jin-Sung . . . 38
Kim, Jin-Up . . . 48
Kim, Jinwoo . . . 48
Kim, JongWon . . . 34
Kim, Junghwan . . . 16
Kim, Kiseon . . . 23, 40
Kim, Kwang Soon . . . 17
Kim, Sang Joon . . . 54
Kim, Sok-Hyong . . . 40
Kim, Su Min . . . 58
Kim, Sun Yong . . . 57
Kim, Tae-Hwan . . . 57
Kim, Tung T. . . . 51
Kim, Woo-Jae . . . 24
Kim, Yong . . . 30
Kim, Yoohwan . . . 59
Kim, Young Il . . . 37
Kim, Young-Doo . . . 22, 41
Kim, Youngjae . . . 57
Kim, Youngki . . . 19
Kim, Youngky . . . 6
Kimura, Hideaki . . . 41
Kimura, Takeshi . . . 16
Kinalis, Athanasios . . . 23
Kirkelund, Gunvor Elisabeth . . . 20
Kishi, Yoji . . . 51
Kitatsuji, Yoshinori . . . 20, 36
Kitson, Fredrick L. . . . 7
Klasky, Scott . . . 47
Klautau, Aldebaro . . . 43
Kleban, Janusz . . . 36
Kleiner, Marius . . . 41
Klenk, Andreas . . . 15
Kliazovich, Dzmitry . . . 30, 56
Klinc, Demijan . . . 14
Klinkowski, Miroslaw . . . 41
Knopp, Raymond . . . 20
Ko, Chi Chung . . . 22
Ko, King-Tim . . . 55
Ko, Soomin . . . 28
Ko, Young-Chai . . . 63
Koc, Ali . . . 49
Kodeswaran, Palanivel . . . 15
Koduri, Vijay . . . 9
Koetter, Ralf . . . 30, 36
Kohrt, Klaus-Dieter . . . 12
Koike-Akino, Toshiaki . . . 22, 37, 38
Kojima, Fumihide . . . 54
Kojima, Masaaki . . . 16
Kokkinos, Panagiotis . . . 15
Komaki, Shozo . . . 36
Kompella, Sastry . . . 46
Komulainen, Petri . . . 17
Konda, Pradap Venkatramanan . . . 26
Kondareddy, Yogesh . . . 31
Kong, Linghe . . . 18
Kong, Lingkun . . . 48, 56
Konig, Andre . . . 29
Konstantinidis, Andreas . . . 55
Kormentzas, Georgios . . . 35
Korus, Pawel . . . 50
Kotsopoulos, Stavros K. . . . 43
Kountouris, Mario . . . 46
Koutsopoulos, Iordanis . . . 45, 54
Koyanagi, Izumi . . . 40
Koyuncu, Erden . . . 51
Kozawa, Yusuke . . . 36
Krebs, Martin . . . 55
Krikidis, Ioannis . . . 53
Krishnamachari, Bhaskar . . . 52
Krishnamurthy, Srikanth V. . . . 45
Krishnamurthy, Vikram . . . 58
Krishnan, Anantha Raman . . . 26
Krishnan, Hariharan . . . 34
Krishnan, Michael N. . . . 59
Krishnan, Prasad . . . 30
Krishnaswamy, Dilip . . . 8
Krishnaswamy, Vankatesh . . . 30
Krongold, Brian . . . 31
Krunz, Marwan . . . 49
Ksentini, Adlen . . . 59
Ktari, Salma . . . 25
Kubo, Hiroyuki . . . 19
Kubo, Ryogo . . . 42
Kubo, Takeshi . . . 36
Kucay, Markus . . . 55
Kucera, Ludek . . . 39
Kucera, Stepan . . . 39
Kuehn, Paul . . . 65
Kuhling, David . . . 52
Kulkarni, Vineet . . . 35
Kumar, Naveen . . . 26
Kumar, Udayan . . . 29
Kumozaki, Kiyomi . . . 41, 42
Kuo, C.C. Jay . . . 35
Kurihara, Tom . . . 11
Kurokawa, Hiroyuki . . . 25
Kusume, Katsutoshi . . . 47
Kutscher, Dirk . . . 18
Kuze, Toshiyuki . . . 32, 38
Kwak, Byung-Jae . . . 14
Kwak, Kyungsup . . . 50
Kwon, Hojoong . . . 28
Kwon, Hyukjoon . . . 29, 43

L

La, Quang Duy . . . 44
La Porta, Thomas F. . . . 64
Laberteaux, Ken P. . . . 32
Labiod, Houda . . . 25
Labreche, Olivier . . . 32
Lacan, Jerome . . . 33, 40
Ladid, Latif . . . 12
Lai, I-Wei . . . 57
Lai, Kunfeng . . . 32
Lakkis, Ismail . . . 54
Lakshmanan, Madan Kumar . . . 27
Lam, Kwok-Yan . . . 35
Lamahewa, Tharaka A. . . . 57
Lamanna, Guerino . . . 36
Lambadaris, Ioannis . . . 55
Lamoriniere, Cedric . . . 41
Lampe, Lutz . . . 43, 51
Lan, Tian . . . 19
Lan, Zhou . . . 27, 54
Lanaman, J. Nicholas . . . 53
Langar, Rami . . . 34
Lannoo, Bart . . . 61
Laoudias, Christos . . . 43
Laourine, Amine . . . 33
Lapsley, David . . . 30
LaRochelle, Sophie . . . 31
Lasaulce, Samson . . . 26
Lashkarian, Navid . . . 16, 56
Lassner, David . . . 7
Latre, Steven . . . 50
Latva-Aho, Matti . . . 25, 34
Lau, K. . . . 49
Lau, Vincent K.N. . . . 22, 56
Laurenson, David . . . 27
Lauwereins, Rudy . . . 22
Lavenant, Marc P. . . . 21
Law, David . . . 63
Law, Lok Man . . . 26
Lea, Chin Tau . . . 43
Leanheart, Steve . . . 9
Leduc-Primeau, Francois . . . 46
Lee, Bu Sung . . . 40
Lee, Byeong Gi . . . 28
Lee, Hee S. . . . 48
Lee, Heunchul . . . 42
Lee, HyungJune . . . 29
Lee, Hyunok . . . 41
Lee, Inkyu . . . 32, 38, 41, 42, 58
Lee, Jeong Heon . . . 43
Lee, Jeong-Yoon . . . 24
Lee, Jong-Ho . . . 29, 52
Lee, Jungwon . . . 14
Lee, Juong-Sik . . . 40
Lee, Kyoung-Jae . . . 32, 38, 41
Lee, Minsoo . . . 30
Lee, Moon Ho . . . 48
Lee, Moon-Sik . . . 16
Lee, Namyoon . . . 41

Lee, Ruby . . . 19
Lee, Seung-Hoon . . . 40
Lee, Seungmin . . . 28
Lee, SingLing . . . 49
Lee, Young . . . 8
Lehman, Tom . . . 47
Lei, Andre . . . 13
Lei, Chin-Laung . . . 57
Lei, Yiming . . . 37
Lei, Zhongding . . . 52
Leinonen, Juko . . . 53
Leith, Alex . . . 27
Le-Ngoc, Tho . . . 21, 33, 44, 48
Leonardi, Gian . . . 25
Leon-Garcia, Alberto . . . 15
Lepinski, Matthew . . . 10
Lerner, Anat . . . 14
Letaief, Khaled B. . . . 17, 27, 38
Letzepis, Nick . . . 20
Leu, Jenq-Shiou . . . 30
Leung, Kin K. . . . 19, 24
Leung, Victor C.M. . . . 23, 31, 32, 34, 54, 58
Leung, Yiu-Wing . . . 54
Levesque, Martin . . . 26
Lev-Tov, Nissan . . . 46
Li, Bin . . . 31, 46, 53
Li, Chen . . . 45
Li, Cheng . . . 29, 50
Li, Chenglin . . . 13
Li, Cheng-Ying . . . 32
Li, Chengzhi . . . 47
Li, Chih-Peng . . . 56
Li, Dagang . . . 35
Li, Dapeng . . . 43
Li, Dongdong . . . 15
Li, Geoffrey Ye . . . 15, 27, 29, 32
Li, Guojie . . . 30
Li, Hao . . . 52
Li, Hongbin . . . 13
Li, Husheng . . . 14, 35, 47
Li, Jian-Dong . . . 55, 56
Li, Jiang . . . 14
Li, Jie . . . 45
Li, Jing . . . 26, 38
Li, Juan . . . 15, 48
Li, Jun . . . 48, 57
Li, Keqiu . . . 24, 35, 46
Li, Kewei . . . 23
Li, Le Min . . . 31
Li, Li . . . 40
Li, Lichun . . . 25
Li, Ming . . . 31, 39
Li, Nan . . . 33
Li, Peiqiang . . . 20
Li, Ping . . . 38, 51
Li, Qiao . . . 58
Li, Qing . . . 28, 47
Li, Renfa . . . 29
Li, Shuo-Yen . . . 26, 51
Li, Shuqin . . . 51
Li, Tongtong . . . 47
Li, Victor O.K. . . . 13, 24
Li, Xiang-Yang . . . 23
Li, Xiaolong . . . 54
Li, Xin . . . 43
Li, Xingyu . . . 35
Li, Xue . . . 42
Li, Yang . . . 24
Li, Yanhua . . . 58
Li, Yong . . . 19, 20, 23, 50, 58
Li, Yonghui . . . 21, 53
Li, Yongzhao . . . 58
Li, Yujun . . . 58
Li, Yun . . . 27, 44, 47
Li, Zhenyu . . . 45
Liang, Ben . . . 49, 54
Liang, Hao . . . 23
Liang, Qiao Zhong . . . 46
Liang, Wei . . . 13, 45
Liang, Xuedong . . . 23
Liang, Ying-Chang . . . 21, 38, 52, 53
Liang, Ying-Hsin . . . 28
Liang, Zhenyu . . . 22
Liao, Chun-Hao . . . 57
Liao, Wanjiun . . . 39
Liao, Yen-Hua . . . 55
Liao, Zaiyi . . . 43
Lim, Hyoung-Jin . . . 48
Lim, Teng Joon . . . 22, 52
Lima, Claudio . . . 35
Lin, Chuang . . . 19, 30
Lin, Hai . . . 38
Lin, Hao . . . 47
Lin, Hui-Tang . . . 56
Lin, Jung-Mao . . . 57
Lin, Shu . . . 36
Lin, Xiangtao . . . 40
Lin, Xianodong . . . 35, 55
Lin, Xiaokang . . . 38
Lin, Ying-You . . . 56
Lin, Yun-Wei . . . 49
Lioumpas, Athanasios S. . . . 33
Liu, An . . . 17
Liu, Bin . . . 19, 31, 46
Liu, Chi Harold . . . 24
Liu, Chia-Horng . . . 38
Liu, Chunhui . . . 25
Liu, Feng . . . 40
Liu, Hai . . . 54
Liu, Hang . . . 19
Liu, Hongbo . . . 54
Liu, Hongmei . . . 57
Liu, Hua . . . 52
Liu, Jianquan . . . 56
Liu, Jing . . . 43
Liu, Johnathan . . . 32
Liu, Ju . . . 18
Liu, Juan . . . 48
Liu, K.J. Ray . . . 26
Liu, Kuang-Hao . . . 16
Liu, Liang . . . 18
Liu, Ming . . . 13
Liu, Mingyan . . . 26
Liu, Pang-Feng . . . 28
Liu, Pei . . . 54
Liu, Peng . . . 56
Liu, Pin-Chuan . . . 57
Liu, Qing . . . 47
Liu, Ruilin . . . 54
Liu, Tingwen . . . 37
Liu, Wei . . . 41, 56
Liu, Wen-Jiunn . . . 13
Liu, Xuemei . . . 18
Liu, Yong . . . 19, 20, 50
Liu, Youjian . . . 17, 43
Liu, Yu . . . 56
Liu, Yuan-An . . . 58
Liu, Yuting . . . 29
Liu, Zheng . . . 29
Liva, Gianluigi . . . 48
Llado, Joan Enric Barcelo . . . 16
Lo, Eric M.K. . . . 54
Lohmann, Nils . . . 45
Loiola, Murilo B. . . . 55
Long, Chengnian . . . 56
Long, Fei . . . 18
Long, Hang . . . 32
Long, Long . . . 20
Lont, Maarten . . . 18
Lopes, Renato . . . 55
Lopez, Sofia Martinez . . . 22
Lopez-Bravo, Cristina . . . 57
Lopez-Garcia, Candido . . . 41
Lopez-Guerrero, Miguel . . . 18
Lopez-Martinez, F. Javier . . . 20
Loree, Paul . . . 19
Lotker, Zvi . . . 46
Lott, Christopher . . . 44
Lotze, Jorg . . . 37
Lou, Wenjing . . . 39
Lou, Xiaosong . . . 40
Louie, Raymond H.Y. . . . 53
Loushine, Mike . . . 11
Low, Steven . . . 31
Lozano, Angel . . . 14
Lu, Hsiao-Chen . . . 39
Lu, Kejie . . . 17, 39, 53
Lu, Peng . . . 22
Lu, Qianxi . . . 42
Lu, Sanglu . . . 50
Lu, Shan . . . 31
Lu, Shyue-Ching . . . 5
Lu, Tian-Bo . . . 24
Lu, Wei . . . 46
Lu, Yang . . . 32
Lu, Yuanchao . . . 35
Lua, Eng Keong . . . 14, 51
Lucani, Daniel E. . . . 30
Lucerna, Diego . . . 15, 47
Lukacs, Don . . . 11
Luke, Jahn . . . 19
Luna, Ricardo . . . 36
Luo, An'an . . . 30
Luo, Changqing . . . 31
Luo, Ling . . . 31
Luo, Wu . . . 17
Luo, Xiliang . . . 53
Lv, Gangming . . . 22
Lv, Junjie . . . 30
Lv, Qian . . . 40
Lv, Tiejun . . . 38, 57
Lyell, Margaret . . . 19

M

Ma, Dong . . . 23
Ma, Huadong . . . 18
Ma, Jian . . . 24
Ma, Jun . . . 17, 32
Ma, Maode . . . 23, 27, 29
Ma, Shaodan . . . 57
Ma, Shichuan . . . 27
Ma, Tao . . . 25
Ma, Xiaojun . . . 54
Ma, Yan . . . 20
Ma, Yao . . . 17, 27
Ma, Yaozhou . . . 29
Maaref, Amine . . . 38
Machuca, Carmen Mas . . . 64
MacKenzie, Allen B. . . . 52
Madhow, Upamanyu . . . 16
Madhukumar, A.S. . . . 52
Madhusudhanan, Prasanna . . . 43
Madisetti, Vijay K. . . . 53
Magedanz, Thomas . . . 10
Maggiorini, Dario . . . 36
Maham, Behrouz . . . 48
Maher, Phillip . . . 15
Maheswaran, Muthucumaru . . . 35
Mahindra, Rajesh . . . 34
Mahinthan, Veluppillai . . . 23
Mahonen, Petri . . . 37
Maier, Guido . . . 47, 51
Maier, Martin . . . 41
Maille, Patrick . . . 54
Majjigi, Vinay . . . 33
Makido, Satoshi . . . 34
Makki, Kia . . . 40
Makrakis, Dimitrios . . . 13
Malanchini, Ilaria . . . 26
Malaney, Robert . . . 15
Malek, Manu . . . 60
Malladi, Durga . . . 44
Malmirchegini, Mehrzad . . . 19
Malouch, Naceur . . . 29
Man, Hong . . . 30
Manchon, Carlos Navarro . . . 20
Manini, Daniele . . . 18
Mannersalo, Petteri . . . 39
Mannor, Shie . . . 46
Manoj, B.S. . . . 34
Manousakis, Konstantinos . . . 15
Mansour, Mohammad M. . . . 48
Mao, Guoqiang . . . 29
Mao, Shiwen . . . 25, 49
Mao, XuFei . . . 23
Marano, Stefano . . . 43
Marchand, Cedric . . . 38
Marchenko, Nikolaj . . . 29
Marchese, Mario . . . 18, 21, 49
Mardoyan, Haik . . . 31
Marios, Kountouris . . . 46
Mark, Jon W. . . . 23
Marsch, Patrick . . . 27, 55
Martel, Charles U. . . . 15
Martin, Richard . . . 45
Martirosyan, Anahit . . . 45
Martos-Naya, Eduardo . . . 20
Masala, Enrico . . . 25
Masiero, Riccardo . . . 39
Masuda, Akeo . . . 46
Mathar, Rudolf . . . 25, 41
Matsumoto, Mitsuiji . . . 36
Matsumoto, Tadashi . . . 33
Matsushita, Akira . . . 47
Matta, Ibrahim . . . 20
Matuz, Balazs . . . 46
Matyjas, John . . . 31
Maunder, Robert G. . . . 48
Mavlankar, Aditya . . . 14
Mawji, Afzal . . . 29
Mayer, Hans-Peter . . . 22
Mazataud, Camille . . . 14
McArthur, Christian . . . 40
McCoy, Damon . . . 45
McDaniel, Patrick . . . 64
McGuckin, Tim . . . 11
McKay, Matthew R. . . . 16
McLaughlin, Steven W. . . . 14
McLoughlin, Ian . . . 58
McNew, Justin . . . 11
Medard, Muriel . . . 30, 41
Medepally, Bhargav . . . 17
Medhi, Deep . . . 63
Medidi, Muralidhar . . . 18
Medidi, Sirisha . . . 18
Mehrjoo, Mehri . . . 28
Mehta, Neelesh B. . . . 16, 17, 33
Melhem, Rami . . . 23
Mellouk, Abdelhamid . . . 30, 54
Meng, Kun . . . 30
Mensing, Christian . . . 43
Merani, Maria Luisa . . . 25
Mereu, Anna . . . 56
Meshkati, Farhad . . . 44, 58
Meshkova, Elena . . . 37
Mesleh, Raed . . . 36
Meyr, Heinrich . . . 57
Mhamdi, Lotfi . . . 36
Mi, Wei . . . 25
Miao, Di . . . 13
Miao, Guowang . . . 27, 33
Miao, Kai . . . 8
Michaelides, Michalis P. . . . 55
Michailidis, George . . . 64
Michalopoulos, Diomidis S. . . . 33, 36
Miller, Robert . . . 54
Milosevic, Dusan . . . 18
Milstein, Laurence B. . . . 33, 37, 57
Min, Geyong . . . 19, 24, 28, 37, 48
Mineraud, Julien . . . 20
Minkenberg, Cyriel . . . 56
Minn, Hlaing . . . 20, 53
Minoli, Daniel . . . 12
Mirza, Fauzan . . . 50
Misaki, Norihito . . . 45
Misic, Jelena . . . 34, 42
Misic, Vojislav . . . 34, 42
Misra, Kiran . . . 46
Misra, Satyajayant . . . 13
Misra, Sudip . . . 55
Misway, Subir . . . 47
Mitrano, Fabio . . . 34
Miwa, Hiroyoshi . . . 14
Miyachi, Toshiyuki . . . 34
Miyamura, Takashi . . . 40
Miyata, Hiroshi . . . 12
Miyoshi, Masato . . . 41
Moayeri, Nader . . . 34, 39
Modeker, Jens . . . 34
Moerman, Ingrid . . . 29
Moezzi, Kaveh . . . 28
Mogensen, Preben . . . 20
Moghimi, Farzad . . . 37
Mohamed, Otmane Ait . . . 18
Mohammed, Saif K. . . . 26

Mohan, Gurusamy . . . 20
Mohsenian-Rad, A. Hamed . . . 39, 58
Mokdad, Lynda . . . 49
Molisch, Andreas F. . . . 33, 38
Moltchanov, Dmitri . . . 63
Monajemi, Pooya . . . 24
Mongelli, Maurizio . . . 49
Monnerat, Luiz . . . 25
Monteiro, Edmundo . . . 63
Montojo, Juan . . . 53
Moon, Sung-Hyun . . . 38
Moonen, Marc . . . 21
Morgera, Salvatore D. . . . 17
Mori, Tatsuya . . . 30
Morikawa, Hiroyuki . . . 63
Morikura, Masahiro . . . 48
Morita, Hiroyoshi . . . 41
Morsy, Mohamed . . . 26
Mosse, Daniel . . . 23
Mostofi, Yasamin . . . 19
Mouftah, Hussein . . . 13, 19, 24, 55
Moura, Jose M.F. . . . 30
Mow, Wai Ho . . . 38
Mu, Hua . . . 17
Mueller, Andreas . . . 37
Mueller, Ralf . . . 25
Muhaidat, Sami . . . 22
Muharemovic, Tarik . . . 49
Mujtaba, Syed . . . 38
Mukherjee, Amitav . . . 24
Mukherjee, Biswanath . . . 15, 20, 25
Muller, Andreas . . . 15
Muller, Francisco C.B.F. . . . 43
Muller, Ralf . . . 48
Munaretto, Daniele . . . 39
Munoz, Daniel . . . 20
Murakami, Yasuyuki . . . 35
Murata, Hidekazu . . . 31
Murata, Masayuki . . . 58, 63
Murillo-Perez, Ruben . . . 24
Murphy, John . . . 39
Murphy, Liam . . . 23, 41
Murphy, Sean . . . 39
Murthy, Chandra R. . . . 17, 21, 41

N

Na, Chewoo . . . 18
Nafaa, Abdelhamid . . . 39
Nafaa, Hamid . . . 41
Nafie, Mohammed . . . 15, 33
Nagananda, Kyatsandra G. . . . 21
Nagaraj, Shirish . . . 26
Nagaraja, Sumeeth . . . 44
Nahas, Michel . . . 56
Nahle, Salim . . . 29
Naik, Siddharth . . . 17
Nait-Abdesselam, Farid . . . 50
Nakamura, Shinya . . . 8
Nakanishi, Yasuhiko . . . 41
Nakano, Tadashi . . . 20
Nakao, Akihiro . . . 51
Nakata, Junya . . . 34
Nallanathan, Arumugam . . . 32
Namgoong, Won . . . 20, 42
Nanda, Sanjiv . . . 44, 58
Nandagopalan, Saishankar . . . 54
Nandi, Asoke K. . . . 38
Nanni, Maurizio A. . . . 55
Naqvi, Ijaz Haider . . . 43
Narasimha, Rajan . . . 26
Narasimhan, Ravi . . . 48
Nardelli, Pedro H.J. . . . 34
Nasri, Amir . . . 37
Nasruminallah, Nasruminallah . . . 57
Nasser, Nidal . . . 18
Natarajan, Balasubramaniam . . . 22, 45
Natgunanathan, Iynkaran . . . 50
Nati, Michele . . . 13
Nayak, Amiya . . . 54
Nayak, K.D. . . . 31
Ndo, Gaetan . . . 47
Negi, Rohit . . . 58
Neglia, Giovanni . . . 59
Nemoto, Yoshiaki . . . 24, 28
Neri, Fabio . . . 41
Newman, Timothy R. . . . 24
Ng, Boon Chong . . . 26
Ng, Soon Xin . . . 48, 56
Ng, Sze Kui . . . 32
Ngan, Wingchiu . . . 40
Ngugi, Anne N. . . . 28
Nguyen, Duy . . . 34
Nguyen, Duy H . . . 47
Nguyen, Duy H.N. . . . 16, 21, 32
Nguyen, Ha H. . . . 16, 21, 32, 33, 37, 44
Nguyen, Ha X. . . . 44
Nguyen, Hoang . . . 17
Nguyen, Huan X. . . . 52
Nguyen, Lan Tien . . . 34
Nguyen, Lim . . . 25
Nguyen, Trung Thanh . . . 51
Nguyen-Le, Hung . . . 48
Ni, Wei . . . 53
Niccolini, Saverio . . . 15, 40, 51
Nie, Chun . . . 54
Niemegeers, Ignas . . . 28
Nieminen, Jari . . . 42
Nikitopoulos, Konstantinos . . . 57
Nikjah, Reza . . . 53
Nikoletseas, Sotiris . . . 18, 23
Nikooienejad, Amir . . . 50
Nikookar, Homayoun . . . 27
Nirkhiwale, Supriya . . . 28
Nishikawa, Toru . . . 47
Nishimura, Toshihiko . . . 21, 37
Nishino, Mitsuru . . . 47
Niu, Bo . . . 58
Niu, Zhisheng . . . 27, 59
Niyato, Dusit . . . 39, 49
Nkwe, Thabo K.R. . . . 19
Noghanian, Sima . . . 22
Noguera, Juanjo . . . 37
Noh, Jeonghun . . . 14
Noishiki, Yujin . . . 20
Nordio, Alessandro . . . 18
Nosratinia, Aria . . . 46
Novakov, Emil . . . 43
Novara, Carlo . . . 25
Nyamaa, Ninbold . . . 19
Nyang, DaeHun . . . 19
Nygard, Kendall . . . 19, 47

O

O'Droma, Mairtin . . . 37
O'Neill, Daniel . . . 33
Obaidat, Mohammad S. . . . 19, 36, 55
Obraczka, Katia . . . 34
Ochiai, Hideki . . . 49
Oelcer, Sedat . . . 26
Oeruen, Hamdi . . . 31
Ogawa, Yasutaka . . . 21, 37
Oh, Jun . . . 49
Ohba, Yoshihiro . . . 46
Ohgane, Takeo . . . 21, 37
Ohm, Michael . . . 22
Ohtsuki, Tomoaki . . . 44
Oka, Anand . . . 43
Okamoto, Akira . . . 65
Oktug, Sema . . . 11
Olbert, Michael . . . 36
Olesinski, Wladek . . . 36
Olivares, Teressa . . . 18
Ong, Lyndon . . . 8
Onguetou, Diane Prisca . . . 52
Orlik, Philip . . . 38
Orozco-Barbosa, Luis . . . 18
Orra, Mike . . . 16
Ostad-Rahimi, Majid . . . 22
Oteafy, Sharief . . . 13
Ottersten, Bjorn . . . 22, 53
Ould-Khaoua, Mohamed . . . 46, 55
Ouyang, Robin Wenato . . . 43
Ouyang, Wenzhou . . . 18
Overby, Harald . . . 26
Ozgul, Baris . . . 37
Oztarak, Hakan . . . 47
Ozyurt, Serdar . . . 33

P

Pacifico, Davide . . . 18
Pacifico, Matteo . . . 18
Pados, Dimitris . . . 31
Page, Christopher . . . 56
Pahlavan, Kaveh . . . 54
Palazzo, Sergio . . . 54
Palestini, Claudio . . . 21
Pan, Deng . . . 36, 40
Pan, Miao . . . 15
Pan, Quan . . . 50
Panayiotou, Christos G. . . . 43, 55
Panayirci, Erdal . . . 37
Pang, Ai-Chun . . . 13, 28, 58
Panichpapiboon, Sooksan . . . 59
Pantelidou, Anna . . . 31
Panwar, Shivendra . . . 19, 54
Paolini, Enrico . . . 46
Paolucci, Francesco . . . 50
Papadimitriou, Dimitri . . . 41
Papaleo, Marco . . . 16
Papathanasiou, Christos . . . 32, 33
Papazafeiropoulos, Anastasios K. . . . 43
Papi, Francesco . . . 30
Parekh, Shyam . . . 15, 42
Paris, Jose F. . . . 20
Park, Daeyoung . . . 52
Park, Dohyung . . . 41
Park, Hong Ju . . . 38
Park, In-Cheol . . . 57
Park, Jintae . . . 23
Park, Jong Hyeon . . . 57
Park, Jun Cheol . . . 39
Park, Sehyun . . . 30
Park, Seok-Hwan . . . 38, 41, 58
Parmar, Gautam . . . 46
Parnell, Thomas . . . 26
Parniewicz, Damian . . . 44
Parrish, Kristen . . . 22
Paruchuri, Vamsi . . . 9
Paschos, Georgios S. . . . 15, 39
Patel, Ankitkumar N. . . . 15
Patrone, Fioravante . . . 51
Patroumpa, Dimitra . . . 23
Pattavina, Achille . . . 15, 47, 51
Patwari, Neal . . . 39
Patzold, Matthias . . . 27
Paul, Rajib . . . 24
Pavlou, George . . . 46
Pazzi, Richard W. . . . 49, 54
Pearlman, Francoise . . . 66
Pearlman, Jay . . . 66
Pearson, Marjorie . . . 67
Pecorella, Tommaso . . . 30
Pedro, Joao . . . 52
Pedrola, Oscar . . . 41
Pedroso, Pedro . . . 41
Peeters, Miguel . . . 9
Peh, Edward C.Y. . . . 52
Pei, Yiyang . . . 38
Pelechrinis, Konstantinos . . . 45
Pelsser, Cristel . . . 40, 48
Peng, DongMing . . . 39
Peng, Gang . . . 24
Peng, Jan-Wen . . . 42
Peng, Kewu . . . 25
Peng, Mugen . . . 43, 44, 57
Peng, Qihang . . . 37
Peng, Tao . . . 42
Peng, Yong . . . 21
Peng, Yuexing . . . 37
Pennanen, Harri . . . 17
Pentikousis, Kostas . . . 19
Perez, Miguel Rodriguez . . . 41
Perez-Neira, Ana I. . . . 27, 35
Perlman, Radia . . . 62
Petrioli, Chiara . . . 13
Petroccia, Roberto . . . 13
Pham, Duc-Minh . . . 52
Pham, Tung T. . . . 21, 32
Phan, Khoa T. . . . 48
Piamrat, Kandaraj . . . 59
Pickholtz, Raymond L. . . . 53
Piesiewicz, Radoslaw . . . 30
Pinola, Jarno . . . 19
Pinto, Paulo . . . 46
Pinto, Pedro . . . 33
Piotrowski, Szymon . . . 36
Pires, Joao . . . 52
Piri, Esa . . . 19
Pissinou, Niki . . . 40
Pister, Kristofer . . . 13
Plummer, Jr., Anthony . . . 37, 47
Polepalli, Balaji . . . 54
Polidoro, Andrea . . . 23
Pollin, Sofie . . . 59
Pollini, Gregory P. . . . 61
Pollok, Andre . . . 20
Pomalaza-Raez, Carlos . . . 32
Pompili, Dario . . . 29
Poor, H. Vincent . . . 37, 41, 51
Popovic, Branislav . . . 17
Popovski, Petar . . . 17, 31, 37
Pourmohammadi-Fallah, Yaser . . . 34
Pozidis, Haralampos . . . 26
Pradas, David . . . 33
Prakash, Shiva . . . 58
Prasad, Narayan . . . 55
Prasad, R. Venkatesha . . . 28
Premkumar, A.B. . . . 52
Primak, Serguei L. . . . 17
Procissi, Gregorio . . . 14, 15, 35, 41
Procença, Mario L. . . . 40
Progri, Ilir . . . 62
Pu, Ken . . . 13
Pursley, Michael B. . . . 37
Puryear, Andrew . . . 36
Puttarak, Nattakan . . . 26
Pyo, Chang-Woo . . . 54

Q

Qaraqe, Khalid A. . . . 21
Qi, Lin . . . 24
Qian, Lijun . . . 42
Qian, Liping . . . 17
Qian, Manli . . . 27, 28
Qian, Mengjiong . . . 19
Qian, Yi . . . 39, 53
Qian, Zhuzhong . . . 50
Qiao, Daji . . . 54
Qiao, Deli . . . 31
Qiao, Yuansong . . . 23
Qin, Long . . . 42
Qin, Tao . . . 50
Qing, Sihan . . . 14
Qiu, Jian . . . 20
Qiu, Xiaofeng . . . 25
Qu, Junmei . . . 35
Quan, Qingyi . . . 37
Quan, Zhi . . . 37
Quek, Tony Q.S. . . . 41
Quer, Giorgio . . . 39
Quinteros, Milton I. . . . 38
Quirk, Kevin S. . . . 38
Quittek, Jurgen . . . 63

R

Rabiei, Payam . . . 20, 42
Racz, Andras . . . 28
Rad, Amir Hamed Mohsenian . . . 39, 58
Rad, Mohammad Mansour . . . 31
Radha, Hayder . . . 46
Radhakrishnan, Rathnakumar . . . 26
Radwan, Ayman . . . 54
Rafique, M. Zubair . . . 51
Raghavendra, Ramakrishna . . . 26
Raghunath, K. . . . 38
Rahimzadeh, Payam Dehghani . . . 58
Rahman, M. Azizur . . . 54
Rahman, Md Sazzadur . . . 23
Rahman, Md. Jahidur . . . 17
Rahman, Mohammad Azizur . . . 27
Rahnavard, Nazanin . . . 51

Rajan, B. Sundar 14, 30, 55
Rajan, Dinesh 21
Rajesh, R. 57
Rajewski, Remigiusz 41
Ramachandran, Krishna 51
Ramadass, Sureswaran 12
Ramakrishnan, Venkatesh 57
Ramamoorthy, Aditya 26
Ramamurthi, Bhaskar 27
Raman, Vijay 39
Ramanathan, Parmesh 30
Ramon, Valery 22
Ranck, Rob 9
Rangarajan, Sampath 10, 48
Ranieri, Andrea 36
Rao, Ramesh 34
Rappaport, Theodore 22
Rapuzzi, Riccardo 15
Rastegarfar, Houman 52
Rauscher, Karl F. 64
Raychaudhuri, Dipankar 34, 63
Rayes, Ammar 49
Reddy, Rajashekhar 19
Reed, Jeffrey H. 24
Reed, Jesse D. 49
Reed, Mark C. 37, 62
Reider, Norbert 28
Ren, Chao 23
Ren, Fengyuan 19
Ren, Jian 47
Ren, Zhiyuan 57
Renaudier, Jeremie 31
Repetto, Matteo 15
Restrepo, Juan R. 43
Rezende, Cristiano 54
Ricca, Marco 20
Ricciato, Fabio 19, 46
Riera-Palou, Felip 52
Riihijarvi, Janne 37
Riihonen, Taneli 38, 53
Rim, Minjoong 33
Rimoldi, Bixio 41
Risso, Fulvio 36
Riva, Raffaele 47
Rivero-Angeles, Mario E. 18
Roberts, Brian 54
Roca, Vincent 35, 40
Rocha, Jose 34
Rodrigues, Joel J.C.P. 40, 45, 50
Rodriguez, Adolfo 50
Rodwell, Mark 16
Rogiest, Wouter 50
Rohani, Behrooz 44
Rohm, Dawn 54
Rolim, Jose 23
Rom, Christian 20
Romano, Joao 55
Romirer-Maierhofer, Peter 20
Ronasi, Keivan 39
Rong, Liang 20
Ros, Laurent 21, 37, 47
Rosati, Stefano 16, 27
Rosenberg, Catherine 39
Rosnes, Eirik 36
Ross, Tim I. 30
Rossi, Michele 39
Rossi, Nicola 25
Rossi, Pierluigi Salvo 48, 51
Rougier, Jean-Louis 51
Rouskas, George N. 40, 47
Roy, Rob 8
Roy, Sumit 16, 31
Royo, Fernando 18
Royster IV, Thomas C. 37
Ruan, Ming (Matt) 37
Ruangchaijatupon, Nararat 42
Ruder, Michael A. 32
Ruiz, Joel 13
Rusch, Leslie 25, 31
Rusek, Fredrik 51
Ryan, William E. 49
Rytting, Todd 9

S

Saad, Walid 23
Saadani, Ahmed 56
Sabrina, Fariza 45
Sadasivan, Puthusserypady 32
Saddemi, Gabriella 51
Sadeghi, Parastoo 30, 57
Sadjadpour, Hamid R. 44, 59
Sahin, Mustata E. 37
Sahoo, Anirudha 31
Saito, Keisuke 21
Saito, Yuki 31
Sakai, Hideaki 17
Sakhaee, Ehssan 58
Sakuda, Koji 8
Saladino, Daniela 25
Salapaka, Murti 26
Saleet, Hanan 34
Saleh, Mohammad A. 47
Salem, Mohamed 22
Salgarelli, Luca 31, 36
Salim, Umer 25, 32
Salsano, Stefano 23
Salsi, Massimiliano 31
Samuel, Hany 56
Sanchez-Fernandez, Matilde 32
Sand, Stephan 43
Sang, Young Jin 17
Sangiovanni-Vincentelli, Alberto 45
Santucci, Fortunato 48
Saoudi, Samir 58
Saracco, Roberto 6
Sargento, Susana 34
Sarkar, Suman 20
Sarker, Jahangir 19
Sarwar, Golam 21
Sasaki, Yusuke 57
Sathyan, Thuraiappah 19
Sawan, Mohamad 18
Sayed, Ali H. 21, 37
Sayegh, Amir A. 24
Schaffer, Christian 31
Schierl, Thomas 45
Schlegel, Christian 26, 34
Schmeink, Anke 25
Schnell, Michael 42
Schober, Robert 13, 37, 39, 58
Schreck, Jan 22
Schulzrinne, Henning 19
Schurer, Lars 31
Scoglio, Caterina 28
Sebbah, Samir 20
Secci, Stefano 51
Seedorf, Jan 15
Seither, Daniel 29
Sen, Arunabha 23
Senaratne, Damith 43, 55
Sengupta, Raja 34
Senin, Iria Varela 36
Senouci, Sidi-Mohammed 34
Seo, Jun Bae 54
Seo, Seung-Woo 35
Seol, Dae-Young 48
Serpedin, Erchin 21
Seshadri, Deepa 20
Seskar, Ivan 34
Sethakaset, Ubolthip 39
Severi, Stefano 45
Seyedi, Alireza 63
Sezgin, Aydin 58
Shaban, Heba 52
Shafi, Mansoor 21
Shafiee, Kaveh 32, 34
Shafiei, H. 55
Shah, Virag 16
Shah-Mansouri, Vahid 13, 58
Shalaby, Hossam 26
Shanbhag, Naresh 26
Shanbhag, Shashank 24
Shang, Xiaohu 41
Shang, Yi 23
Shankar, M.R. Bhavani 53
Shao, Xiaoying 38
Sharif, Hamid 18, 27, 39
Sharifkhani, Ali 13, 49
Sharma, Manuj 31
Sharma, Vinod 57
Shaver, Don 9
Shayman, Mark 18
Shea, Christine 34
Sheldon, Colin 16
Shellhammer, Stephen J. 37
Sheltami, Tarek 18
Shen, Bin 52
Shen, Xuemin (Shermin) . . 13, 18, 23, 24, 25, 27, 28, 34, 35, 39, 50, 58
Shen, Yuan 43
Shen, Zukang 49
Sheng, Min 55
Sheng, Zhengguo 19
Sherali, Hanif 46
Sherif, Sherif 56
Shetty, Nikhil 15
Sheu, Shiann-Tsong 39
Shevlyakov, Georgy 23
Shi, Jinglin 28, 54, 56
Shi, Jinyang 35
Shi, Liang 43
Shi, Qingjiang 45
Shi, Wei 16
Shi, Xinghua 23
Shi, Zhenning 17, 37, 62
Shibata, Koji 37
Shigeru, Shimamoto 34
Shila, Devu Manikantan 50
Shim, Byonghyo 47
Shin, Hyundong 41
Shindo, Yoshihiko 47
Shinkuma, Ryoichi 19
Shinoda, Yoichi 34
Shiomoto, Kohei 40, 46
Shogen, Kazuyoshi 16
Shroff, Ness B. 44
Shu, Jun 64
Shu, Yantai 35
Siam, Mohammad 49
Siaud, Isabelle 63
Sicker, Douglas 45
Siddique, Ad. Atiur Rahman 55
Sikdar, Biplab 42, 51
Silva, E.I. 49
Simeone, Osvaldo 53
Singer, Andrew 47
Singh, Brajendra Kumar 34
Singh, Sarabjot 33
Sinnokrot, Mohanned 53
Siohan, Pierre 47
Skianis, Harry 35
Sleurs, Kristof 22, 35
Slock, Dirk 25, 32
Slump, Cornelis 37, 38
Smarandache, Roxana 36
Smith, Nate L. 5
Smith, Peter 21
Sohraby, Kazem 49
Soldati, Pablo 28, 33
Somani, Arun 52
Son, Kyuho 19
Song, Chang-Ick 32
Song, Jian 47
Song, Junde 39
Song, Mei 39, 58
Song, Wei 33
Song, Yang 49
Song, Yi 15
Soong, Anthony C.K. 15, 42
Soong, Boon Hee 44
Soret, Beatriz 31
Soro, Alexandre 40
Sotoudeh, Omid 58
Souihli, Oussama 44
Sourlas, Vasilis 15
Souryal, Michael 34
Sousa, Elvino 33
Sowailem, Mohammad 26
Spagna, Stella 51
Spangnolini, Umberto 27, 37, 53
Spring, Peter 65
Srinidhi, Nagaraja 26
Srinivasan, Anand 29
Srinivasan, Meera 38
Srinivasan, Suman 19
Staehle, Dirk 63
Stancil, Daniel 22
Stanojev, Igor 27, 53
Stasiak, Maciej 44
Stefanatos, Stelios 33
Steinmetz, Ralf 29
Stepanenko, Alexander 31
Stephenne, Alex 27, 33, 42
Stojanovic, Milica 30
Striegel, Aaron 40
Su, Chih-Wei 39
Su, Haibo 23
Su, Hang 33
Su, Li 19, 23
Su, Xueyuan 24
Su, Yi 31, 49
Subhrakanti, Dey 24
Subramaniam, Suresh 20
Suda, Tatsuya 20, 30
Sugimoto, Kenji 40
Suh, Changho 49
Suh, Young-Joo 24, 40
Sujikai, Hisashi 16
Sultan, Ahmed 15
Sum, Chin-Sean 27, 54
Summer, Mark 65
Sun, Chen 15
Sun, Dongmei 29
Sun, Huiping 14
Sun, Huizhong 40
Sun, Kun 19
Sun, Lei 49
Sun, Liang 16
Sun, Qiong 20
Sun, Sumei 39
Sun, Tao 45
Sun, Weiqiang 8, 20
Sun, Yan 14
Sun, Yi 31
Sun, Yin 44
Sun, Yong 32, 35
Sun, Youxian 13, 18, 50
Sun, Zhanwei 53
Sun, Zhi 17
Sun, Zhuo 36
Sundaram, Niveditha 30
Sung, Dan Keun 58
Sung, Hakjea 38, 41
Suraweera, Himal 21
Suzuki, Hiroshi 48
Suzuki, Noriyoshi 34
Suzuki, Toshiji 36
Suzuki, Yasuo 52
Suzuki, Yoichi 16
Swami, Ananthram 27
Szczecinski, Leszek 51
Szczesny, David 45
Szymanski, Boleslaw K. 13, 29, 40
Szyszkowicz, Sebastian S. 43

T

Ta, Xiaoyuan 29
Tachibana, Takuji 40
Tada, Kotaro 24
Tadrous, John 15
Taghizadeh, Mahmoud 37, 47
Tagmouti, Mariam 26
Takahashi, Tatsuro 19
Takahata, Yansunari 47
Takeuchi, Keigo 27
Talari, Ali 51
Taleb, Tarik 21, 24
Talebi, Mohammad S. 25, 55
Talwar, Shilpa 49
Tam, Adrian 45
Tam, Hung 59
Tamma, Bheemarjuna Reddy 34
Tan, Chee Wei 31
Tan, Shiying 54
Tan, Yasuo 34
Tan, Zhenhui 42

Tanahashi, Makoto 49
Tanaka, Shoji 16
Tanaka, Toshiyuki 25
Tang, Ao 31
Tang, Jian 45, 47
Tang, Jin 51
Tang, Shao-Jie 23
Tang, Sulan 25, 47
Tang, Taiwen 22
Tao, Meixia 17, 56
Tao, Zhifeng 38, 39, 42
Tapse, Hrishikesh 36
Tarasak, Poramate 39
Tarchi, Daniele 49
Tarokh, Vahid 28, 37, 54
Tasaka, Shuji 45
Tashiro, Takayoshi 41
Tassiulas, Leandros 15, 32
Tavallaee, Mahbod 46
Tavanti, Luca 23
Teganahalli, Sathish 19
Tellambura, Chintha 21, 43, 48, 55
Tembine, Hamidou 38
Teo, Koon Hoo 42
Tepe, Kemal Ertugrul 34
Tepper, Harold 65
Tewfik, Ahmed 47
Theall, Matt 9
Thian, Boon Sim 52
Thibault, Louis 53
Thompson, John S. 53
Thulasiraman, Preetha 18
Tian, Chao 14
Tian, Daxin 34
Tian, Jun 19
Tian, Lin 28
Tian, Ye 37, 57
Tian, Zhi-Hong 24
Tiberius, Christian C.J. 45
Tien, Po-Ling 42
Timm-Giel, Andreas 18
Ting, Pang-An 42
Tinnirello, Ilenia 59
Tinsley, Keith R. 21
Titchen, John 66
Todd, Terence T. 24
Toh, C.K. 64
Tokgoz, Yeliz 58
Tolli, Antti 17
Tombaz, Sibel 37
Torabi, Mohammad 33
Torbatian, Mehdi 32
Torki, Mahin 57
Torkildson, Eric 16
Torlak, Murat 33
Tornatore, Massimo 15, 20
Torres, Paulo 57
Toumpakaris, Dimitris 14
Toussi, Karim Nasiri 16
Tran, Dung T. 55
Tran, Ha Nguyen 15
Tran, Hao 19
Tran, Le-Nam 48
Tran, Nghi H. 33, 47
Tran, Patrice 31
Trappe, Wade 25, 30
Traskov, Danail 30
Trigui, Imene 33
Tsai, Wen-Chi 55
Tsamis, Dimitrios 36
Tsang, Danny H.K. 58
Tseng, Der-Feng 53
Tseng, Hsueh-Wen 13, 39
Tseng, Yu-Chee 57
Tseronis, Peter 12
Tsiftsis, Theodoros A. 21
Tso, Ci-Ye 42
Tsukamoto, Katsutoshi 36
Tu, Chao-Cheng 42
Tuan, Hoang D. 32
Tuffin, Bruno 54
Turati, Fabio 18
Turgut, Begumhan 45
Turgut, Damla 50
Turkett, Jr., William H. 50

U

Uddin, Md. Forkan 39
Uhm, Yoonsik 30
Ulema, Mehmet 66, 67
Ulukus, Sennur 55
Umansky, Dmitry 27
Umebayashi, Kenta 52
Umehara, Daisuke 48
Usui, Takeshi 36
Utkovski, Zoran 31
Utschick, Wolfgang 32, 43, 47
Uyar, Sima 20
Uysal, Murat 43, 53

V

Vacondio, Francesco 25, 31
Vaidya, Binod 50
Valaee, Shahrokh 34, 42
Valcarenghi, Luca 39, 50
Valin, Jean-Marc 45
Valizadeh, Amir 14
van de Beek, Jaap 17
Van de Capelle, Antoine 35
Van de Meerssche, Wim 50
van der Schaar, Mihaela 49, 60
Van Leekwijck, Werner 50
Van Lil, Emmanuel 35
Van Ooteghem, Jan 61
van Roermund, Arthur 18
Van Thillo, Wim 22
van Wijngaarden, J. 41
Vanelli-Coralli, G. Alessandro 16, 21, 27
Vanka, Sundaram 51
Varkey, John Paul 29
Varma, Vijay 61
Varvarigos, Emmanouel 15
Vasic, Bane 26
Vasilakos, Athanasios 47
Vazquez-Castro, Maria-Angeles 16, 33
Vehkapera, Mikko 25
Veitch, Darryl 46
Velipasalar, Senem 31
Vellore, Padmini 17
Veltri, Luca 14
Venkataraman, Mukundan 45
Venkatesan, Ramachandran 17
Venkatraman, Pavithra 53
Verbrugge, Sofie 61, 64
Verikoukis, Christos 35
Verticale, Giacomo 17
Vesco, Andrea 25
Vfajardo, Victor 46
Vien, Quoc-Tuan 48
Vig, John 6
Viho, Cesar 59
Vikram, Anil Babu 35
Vila-Valls, Jordi 21
Villasenor, John D. 24, 42
Villasenor, Luis 13
Vilzmann, Robert 34
Viniotis, Ioannis 50, 55
Vitucci, Fabio 14, 15, 35, 41
Volos, Haris 37
VonDeak, Tom 66
von Wrycza, Peter 53
Vu, Hai L. 35
Vu, Mai 21
Vucetic, Branka 21, 53
Vukobratovic, Dejan 17
Vyas, Manish 6

W

Wada, Tadahiro 17
Wagle, Rohit 41
Wagner, David 34
Wajda, Krzysztof 50
Wakabayashi, Kaoro 65
Wakamiya, Naoki 58
Wakamori, Kazuhiko 36
Wakazono, Shinjiro 57
Wakiyama, Tetsuya 17
Walkenhorst, Brett T. 44
Walp, Robert 66
Walrand, Jean 15
Wan, Peng-Jun 54
Wan, Zhiguo 35
Wang, Ai-Nung 55
Wang, Baobing 23, 49
Wang, Beibei 26
Wang, Bin 33
Wang, Chengqun 50
Wang, Cheng-Xiang 27
Wang, Chia-Wei 26
Wang, Chih-Hong 24
Wang, Chin-Liang 23
Wang, Chong 16
Wang, Chonggang 27, 47, 49
Wang, Chung-Li 36
Wang, Cong 20, 52
Wang, Cuirong 51
Wang, Dan 23, 32, 47
Wang, Dandan 15
Wang, Danqi 14
Wang, Degang 53
Wang, Di 17
Wang, Dong 17
Wang, Fangxiang 32
Wang, Fei 29
Wang, Furong 23
Wang, Gongpu 21
Wang, Guojun 20
Wang, Hai 54
Wang, Haiming 32
Wang, Hao 38
Wang, Honggang 39
Wang, Hongmei 48
Wang, Hsiang-Po 57
Wang, Hua 55
Wang, Hui 54
Wang, Huiming 53
Wang, Jiangzhou 38
Wang, Jianping 52
Wang, Jianxin 20, 39, 50
Wang, Jing 27
Wang, Jiong 18
Wang, Jun 47
Wang, Junyi 27, 54
Wang, Lei 40, 47
Wang, Lele 35
Wang, Li 27
Wang, Li-Chun 33
Wang, M. 49
Wang, Meng 31
Wang, Miao 30
Wang, Ning 46
Wang, Peng 38
Wang, Ping 49
Wang, Pinghui 50
Wang, Pu 13, 45
Wang, Qiao 43
Wang, Ruhai 21, 30
Wang, Sen-Hung 56
Wang, Shaoxuan 36
Wang, Sheng 31
Wang, ShiGuang 23
Wang, Tiaotiao 21, 30
Wang, Wei 26, 30, 38, 39, 42, 45
Wang, Weiping 50
Wang, Weiwei 58
Wang, Wenaki 14
Wang, Wenbo 32, 37, 42, 43, 44, 57
Wang, Wenye 33, 49, 50
Wang, Xia 42
Wang, Xianbin 17, 52
Wang, Xiaodong 42, 48, 55, 56
Wang, Xiaowen 38
Wang, Xijun 49
Wang, Xin 14, 17, 53, 58
Wang, Xinbing 18, 36, 43, 47, 48, 58
Wang, Xiong 31
Wang, Xiumin 52
Wang, Xiuqun 35
Wang, Yafeng 16
Wang, Yajun 42
Wang, Yang 47
Wang, Ya-Shian 52
Wang, Yichuan 26
Wang, Yu 23
Wang, Yuanzhuo 30
Wang, Yue 33, 53
Wang, Yun 55
Wang, Z. Jane 14
Wang, Zheng 44, 59
Wang, Zijian 13, 29
Wapf, Andreas 34
Warabino, Takayuki 51
Ward, Jon R. 10
Ward-Callan, Mary 65
Warke, Nirmal 26
Wasef, Albert 34, 35
Watari, Masafumi 46
Watson, Rebecca 10
Watteyne, Thomas 13
Webber, Julian 21, 37
Wedemeyer, D. 65
Weeraddana, Chathuranga 25
Wehinger, Joachim 22
Wei, Ji-Bo 53
Wei, Meiying 32
Wei, Yifei 39, 58
Weichenberg, Guy 15
Weil, Tim 11
Weinstein, Stuart 66
Weinstein, Steve 65
Wen, Chih-Chao 36
Wen, Hao 19
Wen, Hong 19
Wen, Jiangtao 42
Wen, Jigang 29
Werner, Stefan 38
Wettling, Fred 12
Whinery, Alan 12
Wichman, Risto 38
Widmer, Joerg 39
Wigren, Torbjorn 43, 49
Willebrand, Heinz 8
Willet, Peter 51
Win, Moe Z. 33, 43
Winter, Rolf 63
Witte, Martin 57
Wittneben, Armin 13
Wojcik, Robert 40
Wolf, Tilman 24
Wolfe, Patrick 16
Wong, Albert Kai-Sun 43
Wong, Daniel 64
Wong, Eric W.M. 35
Wong, Gary K.W. 58
Wong, Kai-Kit 16, 26, 32
Wong, Shing-Wa 41, 42
Wong, Vincent W.S. 13, 39, 58
Woo, Jooin 48
Woo, Seok 40
Woodward, Mike E. 19
Woon, Wilson 29
Woungang, Isaac 45
Wozniak, Jozef 21
Wu, Chaoping 19
Wu, Cheng-Shong 36
Wu, Chih-Hsien 28
Wu, Chi-Jen 32
Wu, Dong-Shing 23
Wu, Eric Hsiao-Kuang 29
Wu, Hsiao-Chun 21, 32, 42, 43, 58
Wu, Hua 16
Wu, Jen-Ming 42
Wu, Jie 20
Wu, Jingxian 28, 48
Wu, Kai 52
Wu, Min-You 18
Wu, Peng 25
Wu, Rong 45
Wu, Sissi X. 38
Wu, Wenjun 37
Wu, Xuan 21, 30
Wu, Yik-Chung 57
Wu, Yiyan 58
Wu, Yongle 26

Wu, Yulei 24, 35, 46
Wu, Zhiqiang 42
Wunder, Gerhard 22
Wymeersch, Henk 43
Wyrembelski, Rafael F. 46

X

Xavier, Eduardo 51
Xi, Kang 40, 45
Xia, Jinhuan 38
Xia, Xiang-Gen 53
Xiang, Haige 17
Xiang, Weidong 11
Xiang, Yong 50
Xiangtao, Lix 19
Xiao, Gaoxi 41
Xiao, Jie 19
Xiao, Lei 30
Xiao, Shu 19
Xiao, Yang 32, 34, 40
Xiao, Yuanzhang 44
Xie, Chongyang 47
Xie, Jia-Cheng 56
Xie, Jiang 15, 39
Xie, Jing 35
Xie, Kai 38
Xie, Kun 29
Xie, Qiuliang 25
Xie, Weigao 54
Xie, Xu 23
Xie, Yao 51
Xin, Chunsheng 15
Xin, Yan 48
Xing, Changyou 56
Xing, Chengwen 57
Xiong, Chun-Lin 53
Xiong, Cong 52
Xiong, Hongkai 13
Xu, Dongxin 21
Xu, Feng 47
Xu, Fulong 13
Xu, Hongji 18
Xu, Jun 42
Xu, Ke 46
Xu, Mingguang 25
Xu, Ping 23
Xu, Roger 19
Xu, Shizhong 31
Xu, Weiyu 57
Xu, XiaoHua 23
Xu, Yi 33
Xu, Youyun 36, 43, 47, 56
Xue, Guoliang 13, 33

Y

Yacoub, Michel 27
Yahaya, Ariffin Datuk 30
Yahya, Bashir 13
Yamagishi, Kazuhisa 51
Yamamoto, Koji 31
Yamamoto, Miki 24
Yamazaki, Katsuyuki 46
Yan, Chunlin 38
Yan, James 19
Yan, Junlin 45
Yan, Kun 21
Yan, Yan 24
Yan, Yier 48
Yan, Ying 42
Yang, Changqing 43
Yang, Chenyang 27
Yang, Dacheng 52
Yang, Dejun 13, 33
Yang, Fang 25
Yang, Hong-Chuan 20, 22, 37
Yang, Hongkun 19, 30
Yang, Jie 54
Yang, Kai-Hsiang 32
Yang, Kun 55
Yang, Li 56
Yang, Lin 48, 57
Yang, Liuqing 57
Yang, Mei 59
Yang, Ming-Ta 36
Yang, Peng 27
Yang, Qi 48
Yang, Shan-Chi 13
Yang, Shengbo 40
Yang, Tao 17
Yang, Wei 20
Yang, Yaling 18, 58
Yang, Yaoqing (Lamar) 27
Yang, Yuli 14
Yang, Zhengyu 39
Yang, Zhixing 25, 47
Yanikomeroglu, Halim 22, 43
Yanmaz, Evsen 29
Yates, David 12
Yavuz, Mehmet 44, 58
Yayimili, Aysegul 20
Yazici, Adnan 45
Ye, Fanghong 56
Ye, Jin 39
Yegani, Parviz 10
Yeh, Ping-Cheng 13
Yeh, Yaoming 12
Yen, She-Hwa 41
Yener, Aylin 37, 41
Yeo, Chai Kiat 14, 40
Yeo, Jeong Ho 47
Yeoh, Phee Lep 16
Yetginer, Emre 47
Yetis, Cenk M. 16
Yeung, Chun Kin Au 38
Yeung, Kwan L. 29
Yi, Chih-Wei 57
Yilmaz, Ferkan 21, 25
Yim, Raymond 16
Yin, Hao 46
Yin, Qinye 53
Yin, Xiaoyan 15
Yokota, Hidetoshi 20, 36, 51
Yolken, Benjamin 36
Yomo, Hiroyuki 17
Yoo, Jae-Yong 34
Yoo, Taesang 44
Yoon, Sung-Guk 44
Yoon, Won-Ju 13
Yoshida, Susumu 31
Yoshimoto, Naoto 42
Yoshino, Hideaki 14, 51
Yoshino, Makoto 19
You, Mingli 48, 57
You, Xiaohu 27
Younis, Mohamed 39, 50
Yousefi'zadeh, Homayoun 54
Youssef, Amr 27, 34
Youssef, Moustafa 56
Ytrehus, Oyvind 36
Yu, Changbin 45, 50
Yu, F. Richard 29, 31, 39, 58
Yu, Hai-Bin 13
Yu, Hui 36, 47, 58
Yu, Nam Yul 25
Yu, Wei 22
Yu, Ya-Ju 28
Yu, Yingdi 20
Yuan, Jinhong 17
Yuan, Xiaojun 51
Yuan, Yao 28, 54, 56
Yuang, Maria C. 52
Yue, Dian-Wu 37
Yue, Guosen 48
Yum, Tak- Sing Peter 17
Yumin, Zhao 30
Yu-Min, Lin 52
Yun, Junghoon 40

Z

Zaboronski, Oleg 26
Zajic, Alenka 27
Zakhor, Avideh 59
Zakhour, Randa 22
Zaki, Ahmed 22
Zalesky, Andrew 35
Zang, Wei 57
Zarifi, Keyvan 48
Zarpelao, Bruno B. 40
Zarrin, Sepideh 52
Zeitler, Georg 30
Zelikovsky, Alexander 26
Zelingher, Simon 12
Zeng, Lieguang 19, 23
Zeng, Peng 13
Zeng, Wei 37
Zeng, Yonghong 52
Zepernick, Hans-Juergen 44
Zhai, Chao 18
Zhai, Ennan 14
Zhan, Ao 30
Zhang, Baoxian 24
Zhang, Beichuan 31
Zhang, Bing 39
Zhang, Caoxie 48
Zhang, Chunhong 25
Zhang, Dan 57
Zhang, Dengyin 25
Zhang, Fan 23
Zhang, Hailin 49
Zhang, Honggang 47
Zhang, Honghai 48
Zhang, Huixiang 56
Zhang, Jian 22
Zhang, Jie 14
Zhang, Jin 54
Zhang, Jingjing 31
Zhang, Jinyun 27, 32, 38, 39
Zhang, Jiucai 18
Zhang, Jun 14, 49
Zhang, Lan 38
Zhang, Lei 47
Zhang, Li 45, 48
Zhang, Lianfang 35
Zhang, Liang 53
Zhang, Long 14
Zhang, Lu 58
Zhang, Mingui 31
Zhang, Qian 23, 54, 56, 58, 59
Zhang, Qingfu 55
Zhang, Rui 21, 25, 38, 46, 51, 53
Zhang, Shunqing 56
Zhang, Tao 11
Zhang, Victoria Ying 43
Zhang, Wei 13, 53
Zhang, Weiyi 45, 47
Zhang, Wenjun 36
Zhang, Wenshu 57
Zhang, Wenyi 37
Zhang, Xi 18, 20, 33, 39, 44
Zhang, Xiaolan 41
Zhang, Xiaoling 13
Zhang, Xiaoxia 53
Zhang, Xin 17, 52
Zhang, Xing 44
Zhang, Yan 27, 55
Zhang, Yanfeng 51
Zhang, Yangyang 16, 26
Zhang, Yide 18
Zhang, Yimin 43
Zhang, Yingjun (Angela) 17, 48
Zhang, Yingnan 43
Zhang, Yong 39
Zhang, Yonghui 25
Zhang, Yongsheng 13
Zhang, Yu 35
Zhang, Yucheng 28, 54, 56
Zhang, Yujun 30
Zhang, Zhan 27, 38
Zhang, Zhenghao 59
Zhani, Mohamed Faten 26
Zhao, Baohua 45
Zhao, Dong 44
Zhao, Dongmei 33
Zhao, H. Vicky 35
Zhao, Kun 30
Zhao, Lian 43
Zhao, Ming 44
Zhao, Shuang 43
Zhao, Weiyi 39
Zhao, Zenghua 35
Zhao, Zhuang 24
Zhendong, Niu 30
Zheng, Baoyu 25, 47
Zheng, Jun 54
Zheng, Kan 32, 37
Zheng, Liming 48
Zheng, Lina 18
Zheng, Meng 13
Zheng, Xiuyuan 54
Zheng, Yahong 22
Zheng, Yi 21, 32
Zheng, Zeyu 52
Zhong, Feng 40
Zhong, Xiaofeng 44
Zhou, Chi 51, 56, 58
Zhou, Gang 46
Zhou, Hairui 56
Zhou, Jihua 28, 31, 54, 56
Zhou, Juejia 44
Zhou, Liang 25
Zhou, Pan 33
Zhou, Ruolin 42
Zhou, Sheng 27
Zhou, Shengli 51
Zhou, Shidong 27, 44
Zhou, Wei 54
Zhou, Xiangwei 15
Zhou, Xiangyun 57
Zhou, XiaoJu 20
Zhou, Yan 23, 58
Zhou, Zhendong 21
Zhou, Zheng 58
Zhu, Chenyuan 58
Zhu, Dalin 22
Zhu, Haojin 39
Zhu, Huiling 38
Zhu, Jinqi 13
Zhu, Lei 17
Zhu, Quanyan 23, 38
Zhu, Shihua 22
Zhu, Shouhong 16
Zhu, Xiaoyan 49
Zhu, Xu 38
Zhu, Ye 35
Zhu, Ying 13
Zhu, Yu 27
Zhuang, Hanqi 17
Zhuang, Hongcheng 27
Zhuang, Peng 23
Zhuang, Weihua 23, 33, 34, 39, 49, 56
Zivkovic, Milan 41
Zohar, Eyal 14
Zorzi, Michele 39
Zotkiewicz, Mateusz 50
Zou, Debin 58
Zou, Junni 13
Zou, Xin 46
Zou, Ying 41
Zuckerman, Doug 66
Zukerman, Moshe 35
Zwierzykowski, Piotr 44

Tuesday, 1 December 2009 • 12:15 – 14:00
Location: Coral Ballroom 3

AWARDS LUNCHEON

Celebrate with your colleagues at this biannual event honoring the achievements of the IEEE and IEEE Communications Society Members. This event is included with the full conference registration.

Additional tickets can be purchased for $60.00 per person.

Tuesday, 1 December 2009 • 19:00 – 21:30
Location: Coral Ballroom

WELCOME RECEPTION

The Welcome Reception is your chance to connect with peers and presenters in a relaxed, informal setting—and the organizing committee's chance to celebrate your arrival at IEEE GLOBECOM 2009. Open to all conference attendees and accompanying guests.

Wednesday, 2 December 2009 • 19:00 – 21:30
Location: Lagoon Green

CONFERENCE BANQUET (LUAU)

Join the IEEE GLOBECOM 2009 organizing committee for a delightful evening as we celebrate the sights and sounds of Hawaii under the sky. This event is included with the full conference registration.

Additional tickets can be purchased for $120.00 per

ISLAND ACTIVITIES AND TOUR RESERVATIONS

IEEE Island Information Desk for IEEE GLOBECOM 20009 Attendees & their Guests

IEEE has made exclusive arrangements with Hawaii Meeting Builders (HMB) to provide advance "web reservations" and on-site assistance to its attendees for seamless tour, activity and local area expertise during your stay in the Hawaiian Islands. HMB's local travel experts will be on-site to reconfirm advance web reservations you may have made on the **"IEEE Advance Activity and Tour Website"** (www.ieeehawaii.com) and also to assist you with any new on-site tour arrangements.

Island Activity, Tour Reservation and Information Desk Location:
Adjacent to Meeting Information Desk in the conference registration area (Coral Lounge / Mid Pacific Center).

Island Activity, Tour Reservation & Information Desk Hours:

Monday, 30 November	7:30 – 17:00
Tuesday, 1 December	7:30 – 19:00
Wednesday, 2 December	7:30 – 16:00
Thursday, 3 December	7:30 – 16:00
Friday, 4 December	8:00 – 14:00

Payment Methods:
Visa, MasterCard, American Express, Cash & Traveler's Checks

Stop by and visit. HMB will answer your questions and provide general information about Oahu and the Hawaiian Islands to help you and your guests make the best use of your time during your stay. They will be more than happy to assist you!

IEEE GLOBECOM 2009 Badges and Tickets
IEEE GLOBECOM 2009 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 Luau.

Conference Location
The conference will be held at the Hilton Hawaiian Village, which offers the perfect mix of exceptional resort accommodations and classic Hawaiian hospitality. Discover over 90 shops and boutiques and a diverse, international selection of restaurants. The resort's beachfront Super Pool is the largest on the island and, on Friday night, it becomes the stage for a celebration of Hawaiian culture and entertainment, ending with a spectacular fireworks show!

The conference will take place in the following buildings: Mid Pacific Conference Center, Kalia Executive Conference Center, Tapa Conference Center, and Rainbow Suite.

Registration
The Registration will take place in the Coral Lobby / Mid Pacific Conference Center 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, 29 November	15:00 – 18:00
Monday, 30 November	7:30 – 17:00
Tuesday, 1 December	7:30 – 19:00
Wednesday, 2 December	7:30 – 16:00
Thursday, 3 December	7:30 – 16:00
Friday, 4 December	8:00 – 14:00

Conference Meals
Awards Luncheon – Coral Ballroom 3
Tuesday, 1 December 2009 • 12:15 – 14:00 (Included with full registration)

Welcome Reception & EXPO Opening – Coral Ballroom
Tuesday, 1 December 2009 • 19:00 – 21:30
(Included with conference registration fee)

Conference Luau – Lagoon Green
Wednesday, 2 December 2009 • 19:00 – 21:30
(Included with full registration)

IEEE GLOBECOM/EXPO 2009
IEEE GLOBECOM/EXPO 2009 is located in the Hilton Coral Ballroom 4 & 5 / Mid Pacific Conference Center.

The EXPO Hall Hours:

Tuesday, 1 December	19:00 – 21:00
Wednesday, 2 December	10:00 – 18:00
Thursday, 3 December	10:00 – 18:00

Coffee Breaks
Coffee breaks will be held in the Exhibit Hall / Coral Ballroom 5 on Wednesday 2 December and Thursday, 3 December at 9:45 – 10:15 and 16:00 – 16:30. Don't miss the opportunity to network and win special prizes. You must be present to win.

Internet Access
Internet Stations are located in the Coral Lounge and Exhibit Hall and will be open during registration hours. IEEE GLOBECOM 2009 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
An area of the Coral Lounge is set aside for the Speaker Ready Room. The area is available for authors to rehearse Monday – Friday from 7:00 – 17:00 for any presenters who wish to rehearse and prepare for their presentations.

Student Travel Grants
Student Travel Grant Recipients can pick up their certificates at the Registration Desk during registration hours.

General Attendee Information
The full-service 24-Hour Xerox® Business Services Center at the Hilton Hawaiian Village is located on the Ground Floor of Diamond Head Tower.

The Post Office is open Monday – Saturday from 8:00 – 16:00 and closed daily from 12:00 – 13:00.

Companion Hospitality
Companions are invited to begin their daily activities in the Companion Hospitality room with coffee and a pastry. Suite #430 in the Tapa Tower has been assigned as the Guest Hospitality Suite. Meet your friends prior to one of the daily tours 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.

The room is open Monday – Thursday from 8:00 – 16:00. 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 $3.50 per bag or $5-$8 for a lot of baggage; taxi drivers: 15% of the fare; airport attendants: $3.50 per bag or $5-$8 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.

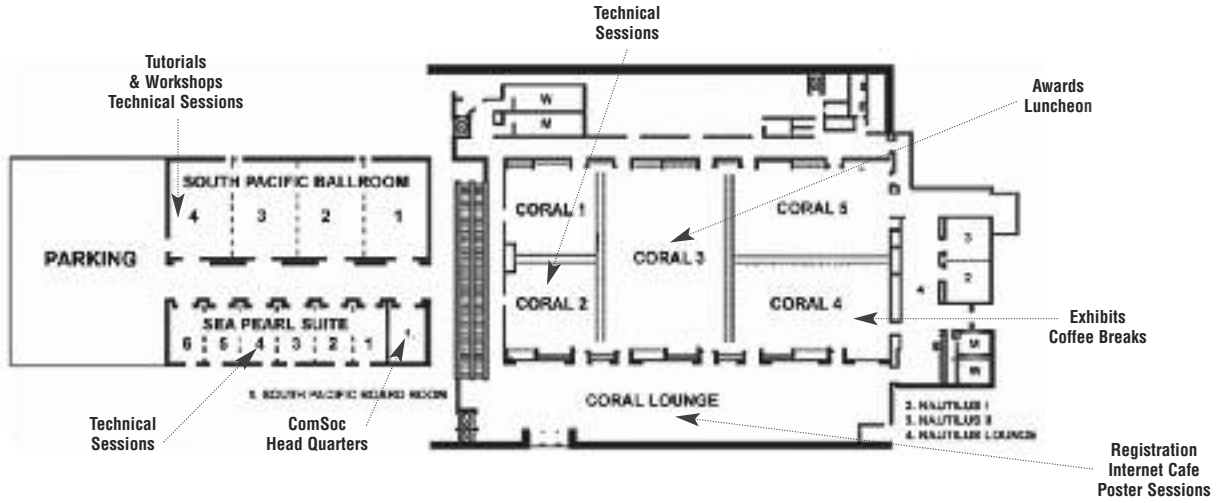
Evaluation Form
Please be sure to take the time to fill out the forms. We value your feedback. You will receive an email after the conference for the overall evaluation of the event.

Traveling Around Honolulu
Traveling to Hawaii is as close as an American can get to visiting another country while staying within the United States. Oahu - where Honolulu and Waikiki are - is the third largest Hawaiian island and has 75% of the state's population. Honolulu is the perfect place to experience the state's indigenous culture, the hundred years of immigration that resulted in today's blended society and the tradition of aloha. The museums and historic and cultural sites will ground you, at least a bit, in Hawaii history. The widest range of restaurants as well as the best nightlife scene in the Islands is here, too.

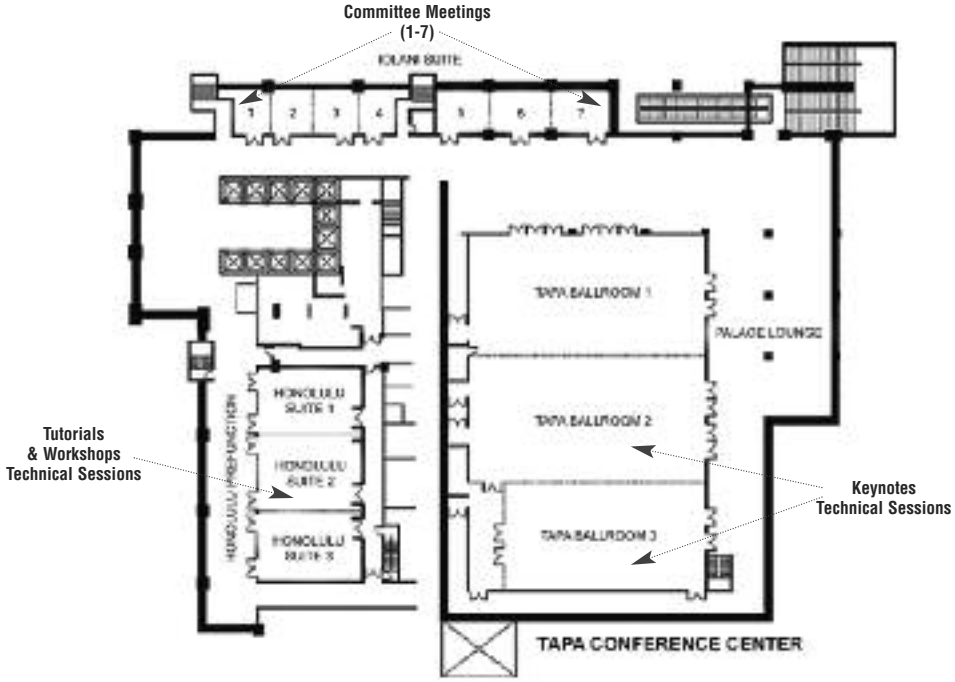
What can I do on Oahu?
- Take a surfing lesson on Waikiki Beach
- Watch world-class surfers charge the big waves on the North Shore
- Pay your respects at the USS Arizona Memorial at Pearl Harbor
- Marvel at the American Florentine architecture of Iolani Palace
- Dress up and experience downtown nightlife and art galleries

For more information, visit
http://www.fodors.com/world/north-america/usa/hawaii/honolulu-and-oahu/

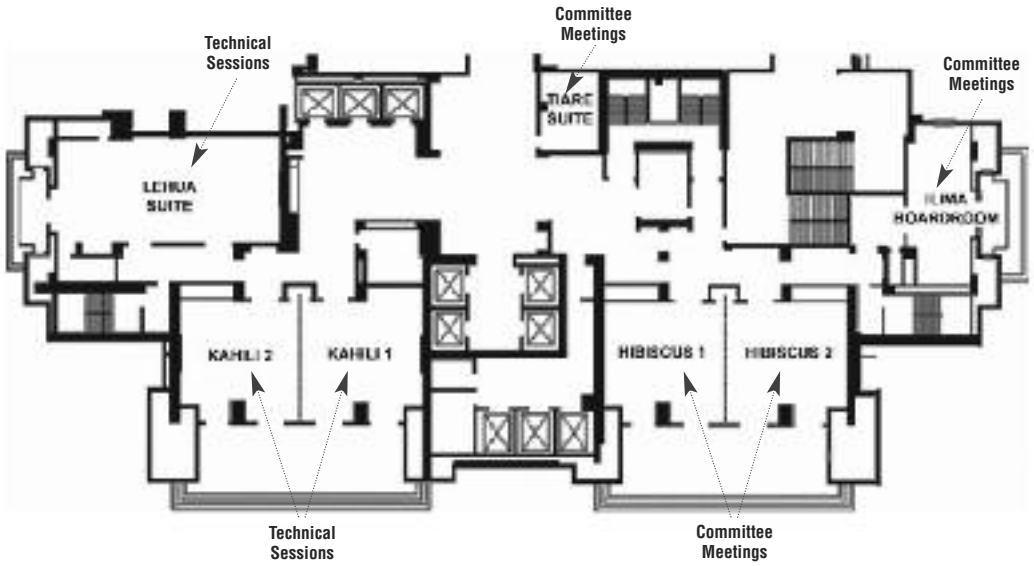
MID-PACIFIC CONFERENCE CENTER



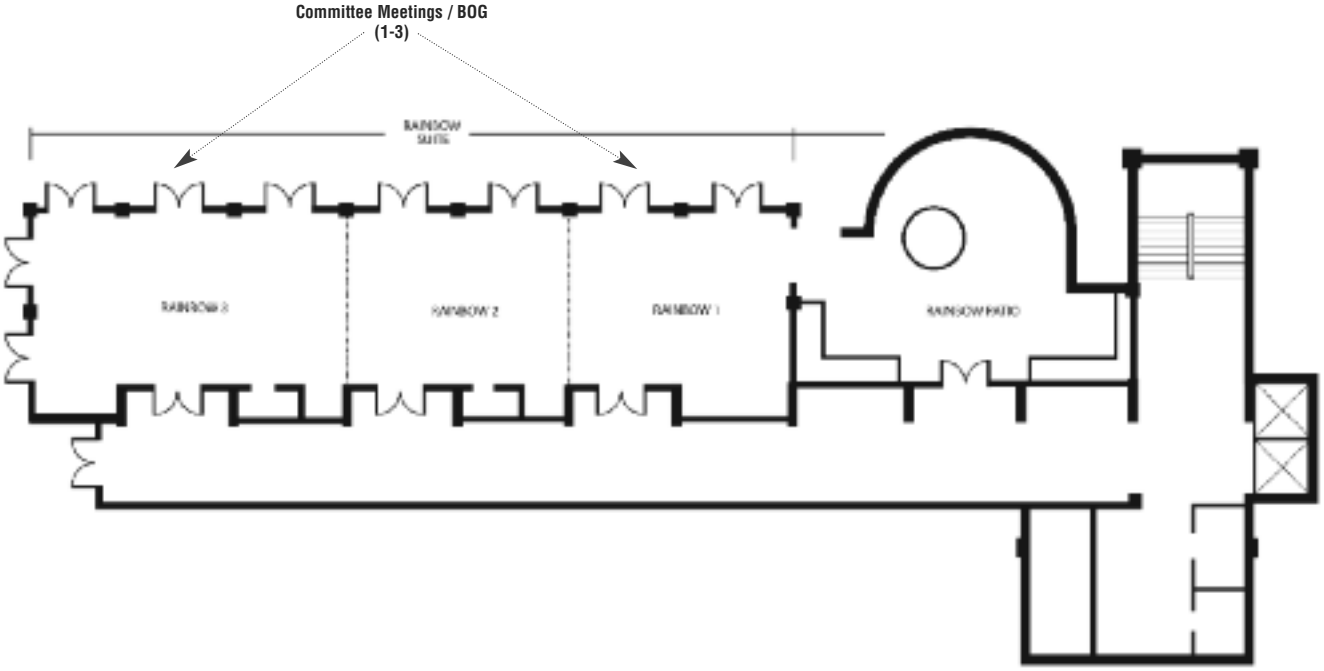
TAPA CONFERENCE CENTER



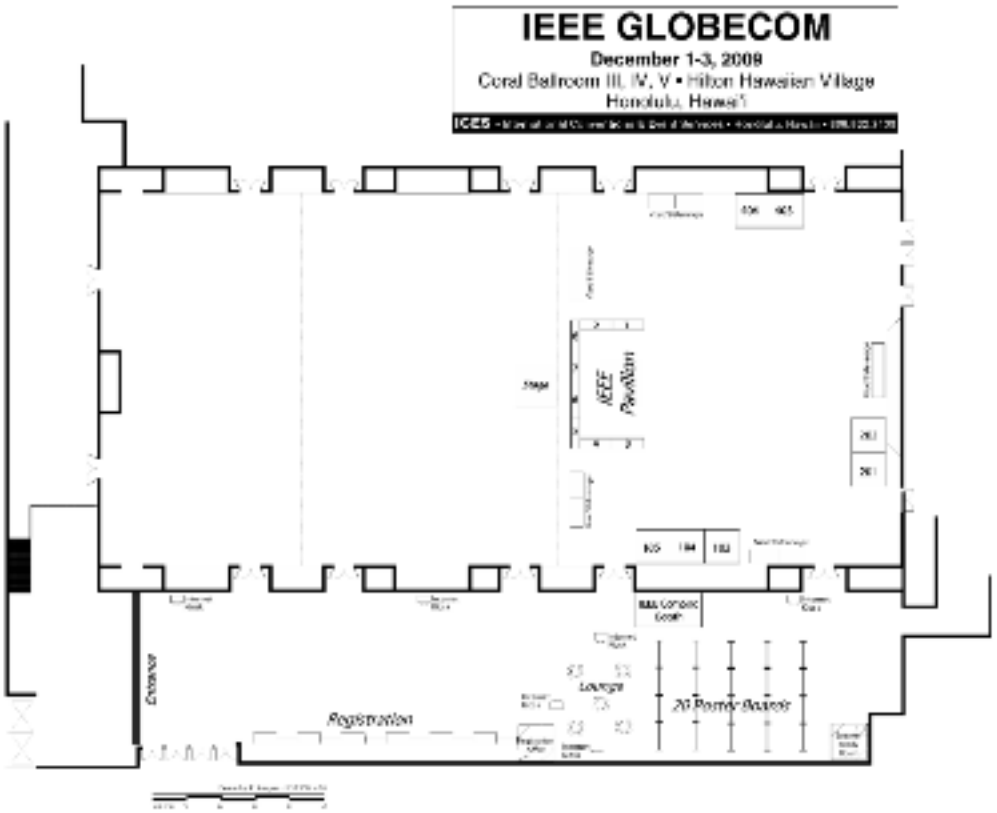
KALIA EXECUTIVE CONFERENCE CENTER



RAINBOW TOWER



EXHIBITOR FLOOR PLAN



ASTRI
Booth Number: 404
Website: www.astri.org

The Hong Kong Applied Science and Technology Research Institute (ASTRI) was founded by the Government of Hong Kong Special Administrative Region in 2000 with a mission of enhancing Hong Kong's competitiveness in technology-based industries through applied research.

In April 2006, ASTRI was designated the Hong Kong Research and Development Centre for Information and Communications Technologies by the Government with special goals to perform leading-edge R&D for technology transfer to industry, develop much needed technological human resources and act as a focal point bringing together industry and university R&D assets.

Since its inception, ASTRI has been delivering world-class technologies and customer-focused R&D catering to the needs of industry. Its R&D efforts traverse five interrelated areas, namely Communications Technologies, Enterprise & Consumer Electronics, IC Designs, Material & Packaging Technologies and Bio-medical Electronics.

Looking ahead, ASTRI will strive to become one of the best and most influential R&D centers in the region.

Cambridge University Press
Booth Number: 201
Website: www.cambridge.org/us

Cambridge University Press is a leading publisher in telecommunications, producing authoritative books for students, researchers, and practitioners. Visit our booth to see a range of new titles including 'LTE for 4G Mobile Broadband' by Farooq Khan, 'Channel Codes' by William Ryan and Shu Lin, 'Classical and Quantum Information Theory' by Emmanuel Desurvire, 'A Foundation in Digital Communication' by Amos Lapidoth, 'Cooperative Communications and Networking' by K.J. Ray lieu et al., 'Multiwavelength Optical Networks, 2nd Edition' by Thomas Stern, Georgios Ellinas, and Krishna Bala, and 'Design, Measurement and Management of Large-Scale IP Networks' by Antonio Nucci and Konstantina Papagiannaki.

IEEE ICC 2010
Booth Number: IEEE Pavilion Table #1
Website: www.ieee-icc.org/2010

Since 1965, the International Conference on Communications (ICC) has been one the flagship conferences of the Communications Society, and after 45 years South Africa will be proud to host this event for the first time on African soil. In keeping with the conference theme of "Communications: Accelerating Growth and Development," this conference would bring together international experts from business, government and academia, who would lead to intensify tomorrow's inventions and innovations in order to accelerate economic growth and improve the quality of life for all. The conference will be held 23 – 27 May 2010 in the beautiful mother city of Cape Town at the Cape Town International Convention Centre (CTICC) and the Minister of Science and Technology, as Conference General Chair with the local organizing committee, promises to make this a truly unique African experience.

IEEE ICC 2011
Booth Number: IEEE Pavilion Table #2
Website: www.ieee-icc.org/2011

IEEE ICC 2011 will be held in Kyoto, Japan from 5 – 9 June. Its high quality program consists of major symposia, keynotes, panel discussions, workshops, tutorials, and exhibitions. Attendees will have a unique opportunity to experience IEEE ICC for the first time in Japan.

IEEE Corporate Strategy & Communications
Booth Number: IEEE Pavilion Table #3
Website: www.ieee.org

IEEE is the world's largest professional association advancing innovation and technological excellence for the benefit of humanity. IEEE and its members inspire a global community to innovate for a better tomorrow through its highly-cited publications, conferences, technology standards, and professional and educational activities. IEEE is the trusted "voice" for engineering, computing and technology information around the globe.

IEEE GLOBECOM 2010
Booth Number: IEEE Pavilion Table #7
Website: www.ieee-globecom.org/2010

IEEE GLOBECOM 2010 will be held 6 – 9 December in Miami, Florida. Its high quality technical conference that will have technical 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 2011
Booth Number: IEEE Pavilion Table #5
Website: www.ieee-globecom.org/2011

IEEE GLOBECOM 2011 will be held in Houston, Texas from 5 – 9 December. As one of the Communications Society's flagship conferences, it provides a full program of technical and professional activities spanning the range of hot topics in voice, data, image and multimedia communications. Tutorials, workshops, and business forums will be presenting all the latest research and vital information on a variety of communication subject areas.

IEEE Standards Association
Booth Number: IEEE Pavilion Table #6
Website: http://standards.ieee.org

The IEEE Standards Association, a globally recognized standards-setting body, develops consensus standards through an open process that engages industry and brings together a broad stakeholder community. IEEE standards set specifications and best practices based on current scientific and technological knowledge. The IEEE-SA has a portfolio of over 900 active standards and more than 400 standards under development.

The Institute of Electronics, Information and Communication Engineers
Booth Number: 202
Website: www.ieice.org/eng/index.html

The IEICE (The Institute of Electronics, Information and Communication Engineers) was founded in May 1917, and is Japan's largest professional engineering society, with over 35,000 affiliated members. The society has an international reputation as a leading force in the investigation and exchange of Knowledge on the science and technology of electronics, information and communication. The four English-language Transactions of the IEICE publish research which has made, and continues to make, significant contributions to the progress of technology and the development of industries in these fields.

These Transactions were first published in 1976 and contain original peer-reviewed papers in the field of "Fundamentals of Electronics, Communications and Computer Science," "Communications," "Electronics," and "Information and Systems." The number of contributions has doubled in the past decade, and over 75 percent of regular papers now come from overseas (especially Asia).

PIMRC 2010
Booth Number: IEEE Pavilion Table #8
Website: www.ieee-pimrc.org/2010

The IEEE Annual Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) is one of the two main conferences of the IEEE Communications Society specializing in wireless and mobile communications. The 21st Edition of this conference, PIMRC 2010, will be held in Istanbul, Turkey, 26 – 30 September 2010. The deadline for submission of papers, tutorials, and workshops is 1 March 2010.

Stop by the table reserved for PIMRC 2010 at the IEEE Pavilion and pick-up a gift along with a copy of the Call for Papers, and information about Istanbul and Turkey.

Springer
Booth Number: 103
Website: www.springer.com

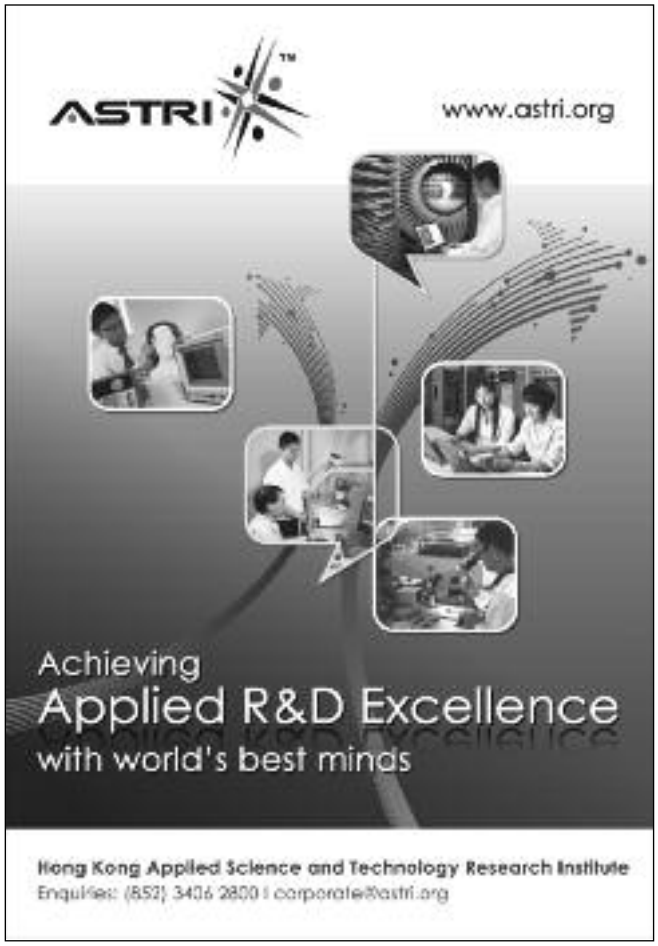
Springer is a leading publisher of books, journals and electronic products. Visit us at booth# 101 to purchase our latest publications at a 20% conference discount. Our publishers are available to answer any questions you may have. Visit springer.com/engineering for more information on our latest products.

Telcordia Technologies
Booth Number: 104
Website: www.telcordia.com

Telcordia Technologies, Inc. is a leading global provider of telecommunications network software and services for IP, wireline, wireless, and cable. As the industry continuously evolves, Telcordia has the experience and reach to deliver the critical elements of success to help communications providers worldwide deploy innovative and profitable new services via any network or device while helping carriers aggressively reduce costs and grow revenues.

WIE (Women in Engineering)
Booth Number: IEEE Pavilion Table #4
Website: www.ieee.org/women

WIE's core purpose is to facilitate the development of activities that promote the entry into and the retention of women in engineering, computing, technology, and the sciences, and enhance the careers of women in the profession. Come and Network with successful women in your field and get support from a worldwide community of professionals.



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and
IEEE GLOBECOM 2009
Executive Committee
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CALL FOR PAPERS AND PROPOSALS

IEEE GLOBECOM 2010 is the flagship conference of IEEE Communications Society, which is to be held in Miami during 6 – 10 December 2010. We invite you to submit your original technical papers and tutorial and workshop proposals to this event.

The following 11 symposia (with emails of contact points) are featured:

Ad Hoc and Sensor Networking
Contact: hossam@cs.queensu.ca
Chairs: Hossam Hassanein, Xiaohua Jia, Sirisha Medidi, Cheng Li

Communications and Systems Security
Contact: yingfei@hawaii.edu
Chairs: Yingfei Dong, Nidal Nasser, Yanchao Zhang, Kejie Lu

Communications QoS, Reliability and Modeling
Contact: cgwang@ieee.org
Chairs: Hideaki Yoshino, Michael Devetsikiotis, Chonggang Wang

Communication Theory
Contact: mdr@byu.edu
Chairs: Michael Rice, Vahid Tarokh, Shuguang Cui

Next-Generation Networking
Contact: ngn10-tpcchairs@cs.northwestern.edu
Chairs: Yan Chen, Zhenhai Duan, Nasir Ghani, Wojciech Kabacinski

Communication Software, Services and Multimedia Applications
Contact: joeljr@ieee.org
Chairs: Bin Wei, Joel Rodrigues, Mohammad S. Obaidat, John Buford

Optical Networks and Systems
Contact: rouskas@ncsu.edu
Chairs: George Rouskas, Filippo Cugini, Ahmed E. Kamal, Jun Zheng

Signal Processing for Communications
Contact: Hung.H.Nguyen@aero.org
Chairs: Hung Nguyen, Tomohiko Taniguchi, Dilip Sarkar, Zhu Liu

Wireless Communications
Contact: jalel.ben-othman@prism.uvsq.fr
Chairs: Jalel Ben-Othman, Jun Cai, Andrea Conti, Jianwei Huang, Sana Sfar, Liuqing Yang

Wireless Networking
Contact: sci@engr.unl.edu
Chairs: Song Ci, Lin Cai, Abbas Jamalipour, Linda Jiang Xie

Selected Areas in Communications
Contact: bregni@elet.polimi.it
Chairs: Stefano Bregni, Haitao (Tony) Xia, Igor Bisio, Francisco Canete, Linda Doyle

All general questions regarding IEEE GLOBECOM 2010 symposia can be addressed to **Qian Zhang** (qianzh@cs.ust.hk) directly.
All questions regarding panels can be addressed to **Jin Li** (jinl@microsoft.com).

The organizers of IEEE GLOBECOM 2010 as well as our attendees expect accepted papers to be presented at the conference. IEEE reserves the right to exclude a paper from distribution after the conference (e.g., removal from IEEE Xplore) if the paper is not presented at the conference.

FREE TUTORIALS

IEEE GLOBECOM 2010 opens all tutorial sessions to conference attendees **FREE of charge**. The Tutorial/lecture proposals should be submitted via EDAS, and all questions can be addressed to **Khaled El-Maleh** (kelmaleh@qualcomm.com), and the workshop proposals should be submitted to **Xiaobo Zhou** (zbo@cs.uccs.edu) directly.

IMPORTANT DATES

- > **Workshop Proposal:** 15 December 2009
- > **Tutorial Proposal:** 15 December 2009
- > **Proposal Acceptance:** 15 January 2010
- > **Paper Submission:** 15 March 2010
- > **Paper Acceptance:** 1 July 2010
- > **Camera-ready Paper:** 1 August 2010

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