

5th IEEE International Symposium on Wireless Pervasive Computing
IEEE ISWPC 2010

Palazzo Ducale, Modena, Italy
May 5-7, 2010

FONDAZIONE
Cassa di Risparmio di Modena

VENT'ANNI DI INGEGNERIA

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University of Modena and Reggio Emilia, Italy

The General Chair and the organizing committee of IEEE ISWPC 2010 gratefully acknowledge the Accademia Militare for hosting the event, and for the efficiency and kindness in meeting the organizers' demands.

Welcome from the General Chair

On behalf of the ISWPC 2010 Organizing Committee, it is my great pleasure to welcome you to Modena, for the fifth IEEE International Symposium on Wireless Pervasive Computing.

As it is in the Symposium tradition, I hope that this year edition will provide attendees a lively atmosphere, where to attend cutting edge tutorials, listen to top-notch keynote speakers, interact and discuss with the presenters, participate to a sparkling tutorial.

The accepted papers reflect an interest in the topics covered by the Symposium that spans over all continents: 81 % of the authors are from Europe, Middle East and Africa, 12.2 % from Asia and the Pacific, 6.8 % from North and Latin America.

As for the Symposium setting, the Palazzo Ducale represents the most suitable frame to make you assay a bit of the Italian love for beauty and art.

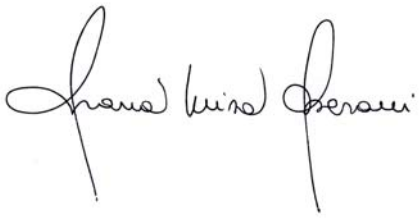
Modena is an Italian city full of history, whose origins date back to the Roman age; its traditions are well rooted in the Medieval centuries, as its beautiful cathedral and Ghirlandina tower testify, but its present is equally vibrant. In present days Modena is located in the heart of one of Europe's wealthiest and most dynamic regions, world renowned for its manufacturing industries of sport cars, Ferrari and Maserati. Its university, founded in 1175, has a long standing tradition and is considered one of the best universities in Italy (ranked second among public universities, according to Italy's leading financial daily).

Even if your leisure time will not be that copious, still take a few hours to sip a coffee in a downtown cafe, take a stroll in the square and along the narrow streets surrounding the cathedral. Enjoy some Italian dish and most importantly, promise to come back.

Benvenuti a Modena!

Maria Luisa Merani





IEEE ISWPC 2010 General Chair
Dipartimento di Ingegneria dell'Informazione
Università degli Studi di Modena e Reggio Emilia
Italia

In memory of Nicoletta Cavalli, my mum.

A Message from the Technical Program Chairs

It is our great pleasure to welcome you to IEEE International Symposium on Wireless Pervasive Computing (ISWPC) 2010, in the historical city of Modena, Italy.

In addition to a peer-reviewed program of 17 technical sessions (15 oral sessions and 2 poster sessions) consisting of 106 papers, this year ISWPC will include high-level keynote speeches, a panel, and free tutorials. The technical program covers a broad spectrum of research topics in mobile and wireless networking including cellular and broadband wireless networks, wireless ad hoc, sensor and personal area networks, cooperative and cognitive radio networks, physical communications, localization techniques, wireless/mobile and pervasive computing and networking applications.

The response of the Call for Papers for ISWPC 2010 was overwhelming. We received more than 170 papers from all over the world – 72.7% of the papers from Europe, Middle East and Africa, 18.2% from Asia/Pacific, 4.5% from USA, 2.4% from Canada, and 2.2% from Latin America. The paper review process was quite rigorous, and the result is a program of high-quality papers. The technical program committee consisted of 65 members. Every paper received at least three full reviews, either by program committee members or by carefully selected external reviewers. Each TPC member had to handle around 8 papers. We believe the presented papers will offer exciting new perspectives that will foster innovative future research.

We are pleased about the broad variety of topics in the technical program. We thank the members of the program committee and the external reviewers for their hard work. We thank Maria Luisa Merani, the General Chair of ISWPC 2010, for her continuous support and guidance throughout the review process.

We hope that you will find this program interesting and thought-provoking and that the conference will provide you with a valuable opportunity to network with other researchers and practitioners from institutions around the world.

Mario Gerla
University of California in Los Angeles, USA
http://nrlweb.cs.ucla.edu/
Technical Program Chair

Ekram Hossain
University of Manitoba, Canada
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Technical Program Co-Chair

Ilenia Tinnirello
University of Palermo, Italy
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Technical Program Co-Chair







ISWPC 2010 Technical Program Committee

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ISWPC 2010 Program

May 5, 2010		
9:00 a.m. – 9:45 a.m.	ISWPC '10 Registration	
9:45 a.m. – 11:30 a.m.	ISWPC '10 T1 Tutorial Room 1	ISWPC '10 T4 Tutorial Main Conference Room
11:30 a.m. – 12:00 a.m.	Coffee Break	
12:00 a.m. – 1:00 p.m.	ISWPC '10 T1 Tutorial Room 1	ISWPC '10 T4 Tutorial Main Conference Room
1:00 p.m. – 2:30 p.m.	Lunch on your own	
2:30 p.m. – 4:00 p.m.	ISWPC '10 T3 Tutorial Main Conference Room	ISWPC '10 T2 Tutorial Room 1
4:00 p.m. – 4:30 p.m.	Coffee Break	
4:30 p.m. – 5:30 p.m.	ISWPC '10 T3 Tutorial Main Conference Room	ISWPC '10 T2 Tutorial Room 1
8:30 p.m.	Welcome Cocktail Salone d'Onore	

May 6, 2010			
8:30 a.m. – 9:00 a.m.	ISWPC '10 Registration		
9:00 a.m. – 9:30 a.m.	Opening Ceremony Main Conference Room		
9:30 a.m. – 10:30 a.m.	Plenary Talk by Professor Médard Main Conference Room		
10:40 a.m. – 12:30 a.m.	TS CC1 Room 1	TS PC Briefing Room	TS SN1 Main Conference Room
12:30 a.m. – 2:00 p.m.	Buffet Lunch		
2:00 p.m. – 3:50 p.m.	TS CR Room 1	TS UB Main Conference Room	TS VMW Briefing Room
3:50 p.m. – 5:00 p.m.	Poster I (PS-I) and Coffee Break Loggiato Cortile d'Onore		
5:00 p.m. – 7:00 p.m.	Panel Session Room 1		
8:00 p.m.	Gala Dinner (*)		

(*) Bus for the Gala Dinner leaving at 8:00 p.m. from Piazza Roma, outside Palazzo Ducale

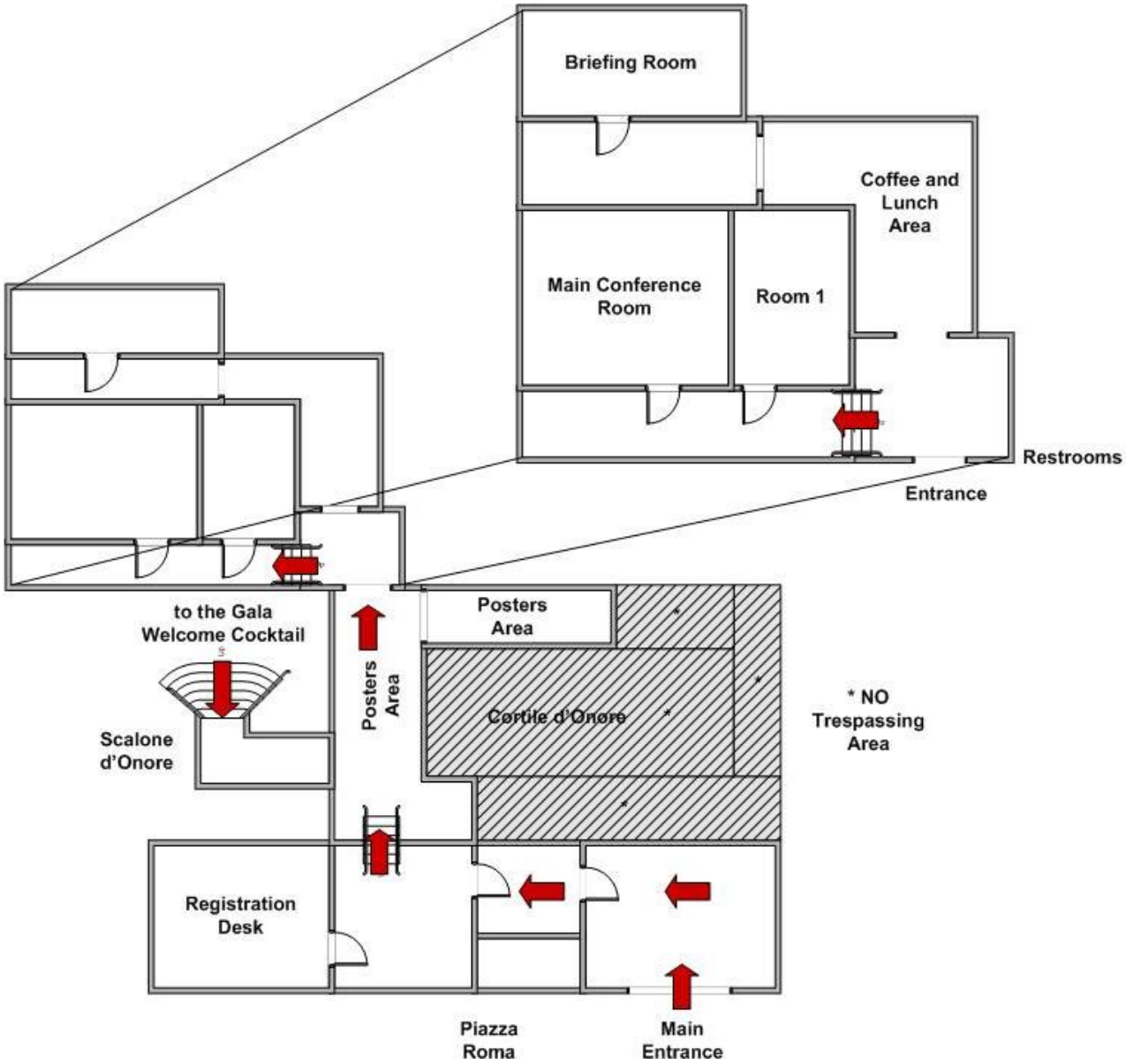
May 7, 2010			
8:30 a.m. – 9:00 a.m.	ISWPC '10 Registration		
9:00 a.m. – 10:30 a.m.	Plenary Talk by Professor Ross Main Conference Room		
10:40 a.m. – 12:30 a.m.	TS LT Main Conference Room	TS SN2 Room 1	TS WPA Briefing Room
12:30 a.m. – 2:00 p.m.	Buffet Lunch		
2:00 p.m. – 3:40 p.m.	TS OFDM Main Conference Room	TS WMS Briefing Room	TS WNNC Room 1
3:40 p.m. – 4:20 p.m.	Poster II (PS-II) and Coffee Break Loggiato Cortile d'Onore		
4:20 p.m. – 6:00 p.m.	TS CC2 Main Conference Room	TS NCN Room 1	TS WN Briefing Room

Map and Rules of the Military Academy

All ISWPC 2010 events will be located in the 17th century Estense Duke Palace, headquarter of the oldest European Military Academy, where formal rules of behavior have to be respected.

Conference attendees are required to always wear their personal badge. Short pants or too casual dresses are not allowed inside the Palace. Smoking inside the conference rooms and the passage through the “Cortile d’Onore” area are forbidden.

Only the path highlighted by the red arrows in the following map must be followed.



ISWPC 2010 Plenary Talk



May 6, 2010, 9:30 a.m. – 10:30 a.m., Main Conference Room

Professor Muriel Médard, MIT, USA

On the practice of network coding. Bringing network coding into the network.

Abstract**:** *Theoretical developments in network coding have pointed to different possible approaches for how coding can be incorporated in networking. In this talk, we consider using network coding in different settings. In particular, we consider the use of network coding in peer-to-peer networks, wireless TCP/IP connections and mobile ad-hoc networks. We show that there is no single approach to network coding that can be successfully applied in all cases, but that careful co-design of network coding techniques with protocols may lead to significant gains.*

Biography: Muriel Médard is a Professor in the Electrical Engineering and Computer Science at MIT. She was previously an Assistant Professor in the Electrical and Computer Engineering Department and a member of the Coordinated Science Laboratory at the University of Illinois Urbana-Champaign. From 1995 to 1998, she was a Staff Member at MIT Lincoln Laboratory in the Optical Communications and the Advanced Networking Groups. Professor Médard received B.S. degrees in EECS and in Mathematics in 1989, a B.S. degree in Humanities in 1990, a M.S. degree in EE 1991, and a Sc D. degree in EE in 1995, all from the Massachusetts Institute of Technology (MIT), Cambridge. She has served as an Associate Editor for the Optical Communications and Networking Series of the IEEE Journal on Selected Areas in Communications, as an Associate Editor in Communications for the IEEE Transactions on Information Theory and as an Associate Editor for the OSA Journal of Optical Networking. She has served as a Guest Editor for the IEEE Journal of Lightwave Technology, the Joint special issue of the IEEE Transactions on Information Theory and the IEEE/ACM Transactions on Networking on Networking and Information Theory and the IEEE Transactions on Information Forensic and Security: Special Issue on Statistical Methods for Network Security and Forensics. She serves as an associate editor for the IEEE/OSA Journal of Lightwave Technology and Guest Editor for a Special Issue of the IEEE Transactions on Information Theory. She is a member of the Board of Governors of the IEEE Information Theory Society. Professor Médard's research interests are in the areas of network coding and reliable comunications, particularly for optical and wireless networks. She was awarded the 2009 Communication Society and Information Theory Society Joint Paper Award, the 2009 William R. Bennett Prize in the Field of Communications Networking award and the 2002 IEEE Leon K. Kirchmayer Prize Paper Award. She was co- awarded the Best Paper Award at the Fourth International Workshop on the Design of Reliable Communication Networks (DRCN 2003). She received a NSF Career Award in 2001 and was co-winner 2004 Harold E. Edgerton Faculty Achievement Award, established in 1982 to honor junior faculty members "for distinction in research, teaching and service to the MIT community." She was named a 2007 Gilbreth Lecturer by the National Academy of Engineering. She is a Fellow of IEEE.

ISWPC 2010 Plenary Talk



May 7, 2010, 9:00 a.m. – 10:30 a.m., Main Conference Room

Professor Keith Ross, New York University, USA

Incentives for P2P Applications: What's in it for Me?

Abstract**:** *Although P2P has proven itself as a viable architectural paradigm for a variety of large-scale distributed applications, P2P is far from reaching its full potential. Peers possess surplus bandwidth, storage and CPU resources, which when aggregated together across all peers worldwide, constitute a huge, untapped resource pool. The success of future P2P applications ultimately depends on convincing users to contribute these resources, which is the challenge of P2P incentive design.*
BitTorrent's tit-for-tat incentive scheme is commendable in that it has been deployed on a massive scale. However, from an economic perspective, tit-for-tat is highly inefficient, since it requires peers to trade synchronously. We believe that the next generation of P2P incentive mechanisms should incorporate some notion of "money," which users can accumulate for providing services, and later spend for acquiring services.
In this talk I will survey two promising lightweight incentive schemes, allowing P2P users to accumulate money and trade asynchronously. The first scheme, called Network Asynchronous Bilateral Trading (NABT), is a fully decentralized, exploits an underlying social network and pairwise currency among pairs of friends. We have shown that NABT is almost as efficient as a perfect economy, where all users can trade directly with each other. The second paradigm, called Closed P2P Communities, is inspired by current practices in BitTorrent darknets. For closed communities, we will show how mechanism design from game theory can be used to design optimal incentive schemes, and how the notion of entropy get be used to combat colluders. This is joint work with Yong Liu and Zhengye Liu.

Biography: Professor Ross joined Polytechnic University as the Leonard J. Shustek Chair Professor in Computer Science in January 2003. He has been Department Head since September 2008. Before joining Polytechnic, he was a professor for five years at Eurecom Institute and a professor for 13 years at the University of Pennsylvania. He holds a PhD from the University of Michigan.
Professor Ross has worked in peer-to-peer networking, Internet measurement, video streaming, Web caching, multi-service loss networks, content distribution networks, network security, voice over IP, optimization, queuing theory, and Markov decision processes. He is an IEEE Fellow, recipient of the Infocom 2009 Best Paper Award (1,435 papers submitted), and recipient of Best Paper in Multimedia Communications 2006-2007 (awarded by IEEE Communications Society). He is currently associate editor for IEEE/ACM Transactions on Networking, and has served on numerous journal editorial boards and conference program committees.
He was PC co-chair for ACM Multimedia 2002, ACM CoNext 2008, and IPTPS 2009. Professor Ross is co-author (with James F. Kurose) of the popular textbook, Computer Networking: A Top-Down Approach Featuring the Internet, published by Addison-Wesley (first edition in 2000, fifth edition 2009). It is the most popular textbook on computer networks and has been translated into fourteen languages. Professor Ross is also the author of the research monograph, Multiservice Loss Models for Broadband Communication Networks, published by Springer in 1995. From July 1999 to July 2001, Professor Ross took a leave of absence to found and lead Wimba, an Internet technology start-up. Wimba voice and video applications primarily for the on-line education and language learning markets. Wimba is now headquartered in NYC and has more than 80 employees worldwide.

ISWPC 2010 Tutorial



May 5, 2010, 9:45 a.m. – 1:00 p.m., Room 1

T1: "Principles of Network Security Protocols"
by Radia Perlman

Abstract**:** *Anyone designing network protocols of any type, or managing a network, needs to understand security. But it tends to be an abstruse science, where the academics focus on the mathematics of the cryptography and formal proofs, and standards-focused people stress the syntax of their particular standard.*
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. For instance, what, if anything, is the difference between the problems and threats in the wireless environment, vs the problems and threats addressed through Internet protocols such as SSL or IPsec? What is the difference between authentication systems based on secret keys, public keys, or identity providers? If one is adding cryptographic protection to a protocol, how can you handle changing keys without breaking a connection? How can you ensure that old packets from previous conversations, or when a sequence number wraps around, do not get mistaken for current packets?

Biography: Radia Perlman is a Fellow at Sun Microsystems Laboratories. Many of her algorithms and protocols are fundamental to today's networks. She's especially known for the spanning tree algorithm which is the fundamental technology in "bridging" and today's switched Ethernet. Ironically, recently she has been designing and standardizing TRILL (TRansparent Interconnection of Lots of Links), intended to replace spanning tree bridging. She also designed the IS-IS protocol, and many of the fundamental algorithms that make today's link state protocols (OSPF as well as IS-IS) scalable and robust. She has also made significant contributions to network security, including credentials download, key management, authentication and authorization models, and assured delete.
She is the author of "Interconnections: Bridges, Routers, Switches, and Internetworking Protocols", and coauthor of "Network Security: Private Communication in a Public World". Both books are widely used as textbooks as well as reference books for engineers. She was awarded a lifetime achievement award from Usenix. Holding about 90 patents, she was named SVIPLA (Silicon Valley Intellectual Property Law Association) Inventor of the Year. She has a PhD from MIT in computer science, and an honorary doctorate from KTH, Sweden's Royal Institute of Technology.

ISWPC 2010 Tutorial



May 5, 2010, 2:30 p.m. – 5:30 p.m., Room 1

T2: "Principles of Vehicle Safety Communications: Dedicated Short Range Communications at 5.9 GHz"
by Luca Delgrossi

Abstract**:** *Connecting vehicles among themselves and with the roadside infrastructure has the potential to significantly enhance safety, reduce traffic congestion, and help preserve the environment. As roadway environments impose a series of interesting challenges of an unprecedented nature, traditional wireless systems cannot be directly adopted for vehicles communications.*
This tutorial presents the main fundamental principles that form a basis for effective vehicle communications protocols design. It focuses on Dedicated Short Range Communications (DSRC), the 75 MHz spectrum band around 5.9 GHz allocated in the U.S. specifically for this purpose and describes the most recent ideas under discussion as DSRC protocols are reaching their maturity. How should protocols be designed? What support is needed for vehicular applications? How can we achieve the high reliability and low latency that are necessary for vehicle safety? This tutorial illustrates at a high level the most challenging aspects of DSRC including scalability, channel switching, and security. As the communications system is analyzed and discussed, constant attention is dedicated to the automotive side so that the examples and cases that are presented reflect realistic application scenarios. Furthermore, ideas are provided on how DSRC applications can be built and fully integrated in vehicles.

Biography: Luca Delgrossi holds a PhD in Computer Science received from the Technical University of Berlin, Germany. Among his past activities, he worked on real-time multimedia communications in their early stage at the International Computer Science Institute (ICSI) at UC Berkeley, CA, and the IBM European Networking Center (ENC) in Heidelberg, Germany. He served as Co-Chair for the Internet Engineering Task Force ST Working Group producing Internet RFC 1819 (IP version 5), and as Associate Director for the Centre for Research on the Applications of Telematics to Organizations and Society (CRATOS) of the Catholic University of Milan (Italy). He is among the founders of the Italian Chapter of the Internet Society.
Today, Dr. Delgrossi leads the Vehicle-Centric Communications (VCC) team at Mercedes-Benz Research & Development North America, Inc. in Palo Alto, CA. The VCC team implemented the first on-board equipment (OBE) with a 5.9 GHz Dedicated Short Range Communications (DSRC) radio performing channel switching (2006) and publicly demonstrated a Mercedes-Benz S-550 coming to stop automatically upon detection of an imminent red light violation at an instrumented intersection (ITS World Congress New York, 2008). He serves as Chairman of the Board of Directors at the Vehicle Infrastructure Integration Consortium and as co-editor of the IEEE Communication Magazine Automotive Series.

ISWPC 2010 Tutorial



May 5, 2010, 2:30 p.m. – 5:30 p.m., Main Conference Room

T3: "Securing Wireless Systems"
by Panos Papadimitratos

Abstract**:** *Wireless devices are becoming pervasive and increasingly versatile. Untethered communication enables a multitude of applications closely knitted with the physical world, with the devices often being the network: anytime and anywhere communication, location-aware services, environmental monitoring, intelligent transportation, socially motivated information exchange. Wireless systems are, however, a double-edged sword: their applications and the nature of wireless communications create new vulnerabilities, and attacks against wireless systems can create new dangers for their users.*

This tutorial focuses on the unique characteristics and security requirements of wireless systems. It distills numerous recent results to cover building blocks and fundamental aspects of wireless system security. Moreover, it lays the ground for its systematic understanding, showing how to reason rigorously on the correctness of wireless security protocols, and it captures performance issues. The covered topics include secure neighborhood discovery, secure ranging and distance bounding, anti-jamming techniques, secure communication, secure localization, and security for vehicular communication systems.

The potential audience includes researchers from academia and industry, including PhD and graduate students. Some background in wireless networking and knowledge of basic security principles would help participants to fully benefit from this tutorial.

Biography: Panos Papadimitratos is a scientist at EPFL, Switzerland, and he received his PhD from Cornell University, Ithaca, NY. He is visiting PoliTo, Italy, in the spring of 2010. His research is concerned with security and wireless networks and systems; he has authored more than 70 technical publications on these topics. He has served as an area editor for the ACM MC2R journal and as a member of several technical program committees, including ACM WiSec, ASIACCS, and MobiHoc, and IEEE INFOCOM.

ISWPC 2010 Tutorial



May 5, 2010, 09:45 a.m. – 1:00 p.m., Main Conference Room

T4: "IP-Oriented QoS in the Next Generation Networks: application to wireless networks"
by Pascal Lorenz

Abstract**:** *Emerging Internet Quality of Service (QoS) mechanisms are expected to enable wide spread use of real time services such as VoIP and videoconferencing. The "best effort" Internet delivery cannot be used for the new multimedia applications. New technologies and new standards are necessary to offer Quality of Service (QoS) for these multimedia applications. Therefore new communication architectures integrate mechanisms allowing guaranteed QoS services as well as high rate communications.*
The service level agreement with a mobile Internet user is hard to satisfy, since there may not be enough resources available in some parts of the network the mobile user is moving into. The emerging Internet QoS architectures, differentiated services and integrated services, do not consider user mobility. QoS mechanisms enforce a differentiated sharing of bandwidth among services and users. Thus, there must be mechanisms available to identify traffic flows with different QoS parameters, and to make it possible to charge the users based on requested quality. The integration of fixed and mobile wireless access into IP networks presents a cost effective and efficient way to provide seamless end-to-end connectivity and ubiquitous access in a market where the demand for mobile Internet services has grown rapidly and predicted to generate billions of dollars in revenue.
This tutorial covers to the issues of QoS provisioning in heterogeneous networks and Internet access over future wireless networks as well as ATM, MPLS, DiffServ, IntServ frameworks. It discusses the characteristics of the Internet, mobility and QoS provisioning in wireless and mobile IP networks. This tutorial also covers routing, security, baseline architecture of the inter-networking protocols and end to end traffic management issues.

Biography: Pascal Lorenz (lorenz@ieee.org) received his M.Sc. (1990) and Ph.D. (1994) from the University of Nancy, France. Between 1990 and 1995 he was a research engineer at WorldFIP Europe and at Alcatel-Alsthom. He is a professor at the University of Haute-Alsace, France, since 1995. His research interests include QoS, wireless networks and high-speed networks .He is the author/co-author of 3 books, 2 patents and 200 international publications in refereed journals and conferences.
He was Technical Editor of the IEEE Communications Magazine Editorial Board (2000-2006), Chair of Vertical Issues in Communication Systems Technical Committee Cluster (2008-2009), Chair of the Communications Systems Integration and Modeling Technical Committee (2003-2009) and Chair of the Communications Software Technical Committee (2008-2010). He has been Co-Program Chair of ICC'04 and symposium Co-Chair at Globecom 2009-2007 and ICC 2009-2008. He has served as Co-Guest Editor for special issues of IEEE Communications Magazine, Networks Magazine, Wireless Communications Magazine, Telecommunications Systems and LNCS.
He is senior member of the IEEE and member of many international program committees. He has organized many conferences, chaired several technical sessions and gave tutorials at major international conferences.

ISWPC 2010 Panel



May 6, 2010, 5:00 p.m. – 7:00 p.m., Room 1

Social implications of wireless pervasive computing: the research community perspective

It is now well established, and was indeed largely anticipated, that wireless pervasive technologies are changing the way we do relate and interact with our surrounding environment. The relevant pros and cons, as well as the new opportunities and concerns brought about by the widespread deployment of such technologies, have been widely debated and assessed in sociologic studies. This panel aims at focusing such a debate through a different angle, namely that of the research community perspective. A number of important questions and issues do emerge, revolving on the role that "concrete" research directions may play in either improving the social acceptance of such technologies (e.g., by addressing security, privacy, usability and flexibility), as well as in exploiting their social impact and nature for technical purposes (e.g., by improving the understanding and usage of social patterns for networking and service development and deployment purposes). We expect a lively discussion, especially in sight of the interdisciplinary and possibly contrasting nature of the technical issues under discussion (e.g., the need to preserve user privacy while gathering and using social information).

Panel coordinator: *Giuseppe Bianchi*

Biography: Giuseppe Bianchi is Full Professor of Telecommunications at the School of Engineering of the University of Roma Tor Vergata since January 2007. His research activity, documented in more than 150 papers in peer-refereed international journals and conferences, includes but does not limit to wireless networking, and network privacy and security issues. He has chaired several conferences/workshops, including ACM WMI 2001, ACM WMASH 2003/2004, IEEE QoS-IP 2005, IEEE WoWMoM 2007/2010, IEEE PIMRC 2008. He is (or has been) coordination for the FP6-DISCREET and FP7-FLAVIA projects, and S&T coordinator for the FP7-PRISM and FP7-DEMONS EU projects.

Thursday, May 6

10:40 AM - 12:30 PM

CC 1 - Cooperative communications I

Room: Room 1, Chair: Hans-Juergen Zepernick (Blekinge Institute of Technology, Sweden)

Non-cooperative Block-faded Orthogonal Multiple Access with Source Correlation: Performance Limits and Practical Schemes

Andrea Abrardo (University of Siena, Italy); Gianluigi Ferrari (University of Parma, Italy); Marco Martalò (University of Parma, Italy)

End-to-end statistics of dual-hop amplify-and-forward relaying in Nakagami-m fading with non-integer fading parameters

Haiyang Ding (Xidian University, P.R. China); Ge Jianhua (Xidian University, P.R. China); Zhuoqin Jiang (Xi'an Communication Institute, P.R. China)

On the Lambert-W Function for CDIT-based Power Allocation in Cooperative Relay Networks

Felix Brah (Université catholique de Louvain, Belgium); Luc Vandendorpe (University of Louvain, Belgium)

Power Consumption Analysis for Mobile Stations in Hybrid Relay-assisted Wireless Networks

Ziaul Haq Abbas (University of Agder (UiA), Norway, Norway); Frank Y. Li (University of Agder, Norway)

Full-Rate Distributed Space-Time Coding for Bi-directional Cooperative Communications

Hoc Phan (Blekinge Institute of Technology, Sweden); Trung Q. Duong (Blekinge Institute of Technology, Sweden); Hans-Juergen Zepernick (Blekinge Institute of Technology, Sweden)

An Opportunistic Virtual MISO (OVM) Protocol for Multi-hop Wireless Networks

Van Nguyen (University of Louisiana at Lafayette, USA); Dmitri Perkins (University of Louisiana at Lafayette, USA)

PC - Physical Communications

Room: Briefing Room, Chair: Lorenzo Favalli (University of Pavia, Italy)

Adaptive Transmit Selection With Interference Suppression

Redha M Radaydeh (KAUST, Saudi Arabia); Mohamed-Slim Alouini (TAMU, Qatar)

Statistical Properties of the Capacity of Double Nakagami-m Channels

Gulzaib Rafiq (University of Agder, Norway); Bjørn Olav Hogstad (University of Navarra, Spain); Matthias Pätzold (University of Agder, Norway)

Capacity Studies of Spatially Correlated MIMO Rice Channels

Bjørn Olav Hogstad (University of Navarra, Spain); Gulzaib Rafiq (University of Agder, Norway); Valeri Ya Kontorovitch (Cinvestav ipn mx, Mexico); Matthias Pätzold (University of Agder, Norway)

Open Source Simulation of Smart Antenna Systems in Network Simulator-2 Using Octave

Fulvio Babich (University of Trieste, Italy); Massimiliano Comisso (University of Trieste, Italy); Aljosa Dorni (University of Trieste, Italy); Marco Driusso (University of Trieste, Italy)

Parameterized EXIT Function for Demapper and Symbol Mapping Design

Duc To (Swansea University, United Kingdom); Jinho Choi (Swansea University, United Kingdom)

Improved SOVA-based Decoding Algorithm for Tailbiting Codes on Wireless Channels

Jorge Ortín (University of Zaragoza, Spain); Paloma Garcia (University of Zaragoza, Spain); Fernando Gutierrez (University of Zaragoza, Spain); Antonio Valdovinos (University of Zaragoza, Spain)

SN 1 - Sensor Networks - I

Room: Main Conference Room, Chair: Mario Marchese (DIST- University of Genoa, Italy)

An Energy-aware Wireless Sensor MAC Protocol for Delay-Sensitive Data Transmission

Hyung Rai Oh (POSTECH, Korea); Hwangjun Song (POSTECH (Pohang University of Science and Technology), Korea)

Optimal Transmission Power of Wireless Sensors for Real-time Systems in Ship Area Networks

Younghwan Yoo (Pusan National University, Korea); Munseok Choi (Pusan national University, Korea); Kideok Kwon (Pusan National University, Korea); Han-You Jeong (Pusan National University, Korea)

A Multi-objective Genetic Algorithm based Approach for Energy Efficient QoS-Routing in Two-tiered Wireless Sensor Network

Gholamhossein Ekbatanifard (Ferdowsi University of Mashhad, Iran); Reza Monsefi (Ferdowsi University of Mashhad (FUM), Iran); Mohammad-R. Akbarzadeh-T. (Ferdowsi University of Mashhad, Iran); Mohammad Hossien Yaghmaee (Ferdowsi University of Mashhad, Iran)

Improvement of Energy Consumption for "Over-The-Air" Reprogramming in Wireless Sensor Networks

Konstantin Mikhaylov (University of Oulu, Finland); Jouni Tervonen (University of Oulu, Finland)

An Intelligent Energy Efficient Target Tracking Scheme for Wireless Sensor Environment

Abhishek Madaan (Lamar University, USA); S. Kami Makki (Lamar University, USA); Lawrence Osborne (Lamar University, USA); Bo Sun (Lamar University, USA)

Accurate Performance Bounds for Target Detection in WSNs with Deterministic Node Placement

Paolo Medagliani (University of Parma, Italy); Gianluigi Ferrari (University of Parma, Italy); Jeremie Leguay (Thales Communications, France); Gay (Thales Communications, France); Mario Lopez-Ramos (Thales Communications France, France)

2:00 PM - 3:50 PM

CR - Cognitive Radio Networks

Room: Room 1, Chair: Sergio Palazzo (University of Catania, Italy)

Spectrum Sensing with Energy Detection under Shadow-fading Condition

Haroon Rasheed (Asian Institute of Technology, Thailand); Nandana Rajatheva (Asian Institute of Technology, Thailand); Farah Haroon (Asian Institute of Engineering and Technology, Bangkok, Thailand, Thailand)

Control Information Exchange through UWB in Cognitive Radio Networks

Ahmed Masri (Politecnico di Torino, Italy); Carla-Fabiana Chiasserini (Politecnico di Torino, Italy); Alberto G. Perotti (Politecnico di Torino, Italy)

Spectrum Management Techniques with QoS Provisioning in Cognitive Radio Networks

Li-Chun Wang (National Chiao Tung University, Taiwan); Chung-Wei Wang (National Chiao Tung University, Taiwan)

Average Waiting Time of Packets with Different Priorities in Cognitive Radio Networks

Hung Tran (Blekinge Institute of Technology, Sweden); Trung Q. Duong (Blekinge Institute of Technology, Sweden); Hans-Juergen Zepernick (Blekinge Institute of Technology, Sweden)

An Exclusive Self-Coexistence (ESC) Resource Sharing Algorithm for Cognitive 802.22 Networks

Carla Passiatore (Politecnico di Bari, Italy); Claudia Cormio (Politecnico di Bari, Italy); Pietro Camarda (Politecnico di Bari, Italy)

Transmission Power Regulation in Cooperative Cognitive Radio Systems Under Uncertainties

Andreas Merentitis (University of Athens, Greece); Dionysia Triantafyllopoulou (University of Athens, Greece)

UB - UWB - Newcom++

Room: Main Conference Room, Chair: Marco Chiani (University of Bologna, Italy)

On Ultra Wideband Channel Modeling for In-Body Communications

Ali Khaleghi (Rikshospitalet and NTNU, Norway); Raul Chávez-Santiago (Norwegian University of Science and Technology, Norway); Xuedong Liang (University of Oslo, Norway); Ilangko Balasingham (Norwegian University of Science & Technology, Norway); Victor CM Leung (The University of British Columbia, Canada); Tor A. Ramstad (Norwegian University of Science and Technology, Norway)

Optimum Synchronization of Ternary Preamble Sequences in Gaussian Noise

Marco Chiani (University of Bologna, Italy); Andrea Giorgetti (University of Bologna, Italy); Enrico Paolini (DEIS, WiLAB, University of Bologna, Italy)

Channel estimation and data detection algorithms for UWB multiuser communications

Alessandro Barbieri (University of Modena and Reggio Emilia, Italy); Fabrizio Pancaldi (University of Modena, Italy); Giorgio M. Vitetta (University of Modena and Reggio Emilia, Italy)

Joint TOA and DOA Estimation Compliant with IEEE 802.15.4a Standard

Eva Lagunas (Universitat Politècnica de Catalunya, Spain); Montse Nájar (UPC, Spain); Monica Navarro (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain)

Testbed for IR-UWB based ranging and positioning: experimental performance and comparison to CRLBs

Achraf Hassan Mallat (Université catholique de Louvain, Belgium); Pierre Gérard (Université catholique de Louvain, Belgium); Maxime Drouguet (Université catholique de Louvain, Belgium); Farshad Keshmiri (Universite catholique de Louvain, Belgium); Claude Oestges (Université catholique de Louvain, Belgium); Christophe Craeye (Université Catholique de Louvain, Belgium); Denis Flandre (Université catholique de Louvain, Belgium); Luc Vandendorpe (University of Louvain, Belgium)

LOS/NLOS Detection for UWB Signals: A Comparative Study Using Experimental Data

Nicolò Decarli (University of Bologna, Italy); Davide Dardari (University of Bologna, Italy); Sinan Gezici (Bilkent University, Turkey); Antonio Alberto D'Amico (University of Pisa, Italy)

VMW - VANETs, MANETs and WPANs

Room: Briefing Room, Chair: Igor Bisio (University of Genoa, Italy)

Performance Modeling of Message Dissemination in Vehicular Ad Hoc Networks

Mehdi Khabazian (INRS-EMT, Canada); Sonia Aissa (University of Quebec, INRS-EMT, Canada); Mustafa Mehmet-Ali (Concordia University, Canada)

Real-World Evaluation of C2X-Road Side Warning Devices

Markus Koegel (Heinrich Heine University Düsseldorf, Germany); Ogilvie (Heinrich-Heine Universität Düsseldorf, Germany); Wolfgang Kiess (Heinrich Heine University Düsseldorf, Germany); Martin Mauve (Heinrich Heine University Düsseldorf, Germany)

Message-Efficient CDS Construction in MANETs

Kazuya Sakai (Auburn University, USA); Min-Te Sun (National Central University, Taiwan); Wei-Shinn Ku (Auburn University, USA)

SLSF: Stable Linked Structure Flooding For Mobile Ad Hoc Networks

Tom Leclerc (LORIA - INRIA Lorraine, France); Laurent Ciarletta (LORIA, France); Andre Schaff (ESIAL, Université Henri Poincaré, France)

On the Resilience of Personal Networks

Javad Vazifehdan (Delft University of Technology, The Netherlands); Ertan Onur (Delft University of Technology, The Netherlands); Ignas Niemegeers (Delft University of Technology, The Netherlands)

Capture Effect in IEEE 802.15.4 Networks: Modelling and Experimentation

Cengiz Gezer (University of Bologna, Italy); Chiara Buratti (University of Bologna, Italy); Roberto Verdone (University of Bologna, Italy)

3:50 PM - 5:00 PM

PS-I - Poster Session I

Room: Loggiato Cortile d'Onore

Wireless Networks at the Service of effective First Response Work: the E-SPONDER Vision

Dimitris Vassiliadis (Exodus S.A., Greece); Maurizio Casoni (University of Modena and Reggio Emilia, Italy); Michal Wódczak (Telcordia Technologies, Inc., Poland); Giorgio Calarco (University of Modena and Reggio Emilia, Italy); Alessandro Paganelli (University of Modena and Reggio Emilia, Italy); Raguel Morera Sempere (Applied Research, Telcordia Technologies, USA); Chung-Min M Chen (Telcordia, USA); Anastasia Garbi (Exodus SA., Greece)

In-Sensor Low-Complexity Audio Pattern Recognition For Pervasive Networking

Marco Martalò (University of Parma, Italy); Gianluigi Ferrari (University of Parma, Italy); Claudio Malavenda (Elsag-Datamat S.p.A, Italy)

Towards Resource-Aware Network of Networks

Antonio Manzalini (Telecom Italia, Italy); Roberto Minerva (Telecom Italia, Italy); Corrado Moiso (Telecom Italia, Italy)

Wireless Pervasive Networks for Safety Operations and Secure Transportations

Mario Marchese (DIST- University of Genoa, Italy)

Experimental evaluation of two open source solutions for wireless mesh routing at layer two

Rosario G. Garroppo (University of Pisa, Italy); Stefano Giordano (University of Pisa, Italy); Luca Tavanti (University of Pisa, Italy)

Performance of two one-time signature schemes in space/time constrained environments

Diana Berbecaru (Politecnico di Torino, Italy)

A Positioning Service for Pervasive Objects in Dynamic Environments

Massimo Ficco (University of Naples "Federico II", Italy); Salvatore Venticinque (Second University of Naples, Italy); Beniamino Di Martino (Seconda Universita' di Napoli, Italy); Rocco Aversa (Second University of Naples, Italy)

Lifetime Determination for Delay Tolerant Communications in Sparse Vehicular Networks

Kadri Sevimli (Turkish Naval Academy, Turkey); Mujdat Soyturk (Istanbul Technical University, Turkey)

Research for Wireless Energy Transmission in a Magnetic Field Communication System

Yun Jae Won (Korea Electronics Technology Institute, Korea)

On Latency in IEEE 802.11-based Wireless Ad-hoc Networks

Oliver Wellnitz (Physikalisch-Technische Bundesanstalt, Germany); Lars C Wolf (Technische Universität Braunschweig, Germany)

Finding MIMO

Dragos S Niculescu (Universitatea POLITEHNICA Bucuresti, Romania)

Friday, May 7

10:40 AM - 12:30 PM

LT - Localization Techniques

Room: Main Conference Room, Chair: Fabrizio Pancaldi (University of Modena, Italy)

Improvements on Scalable Distributed Least Squares Localization for Large Wireless Sensor Networks

Ralf Behnke (University of Rostock, Germany); Jakob Salzmann (University of Rostock, Germany); Dirk Timmermann (University of Rostock, Germany)

Robust Target Tracking with Quantized Proximity Sensors

Majdi Mansouri (University of Technology of Troyes, France); Snoussi Hichem (University of Technology of Troyes, France); Cedric Richard (University of Technology of Troyes, France)

Statistical Characterization of Transmitter Locations based on Signal Strength Measurements

Petri Mähönen (RWTH Aachen University, Germany); Janne Riihijärvi (RWTH Aachen University, Germany); Alper Kivrak (RWTH Aachen University, Germany)

Adaptive localization techniques in WiFi environments

Paolo Addesso (University of Salerno, Italy); Luigi Bruno (University of Salerno, Italy); Rocco Restaino (University of Salerno, Italy)

Bluetooth Indoor Localization with Multiple Neural Networks

Marco Altini (University of Bologna, Italy); Davide Brunelli (University of Trento, Italy); Elisabetta Farella (DEIS - University of Bologna, Italy); Luca Benini (Unversity of Bologna, Italy)

Object Localization using RFID

Kirti Chawla (University of Virginia, USA); Gabriel Robins (University of Virginia, USA); Liuyi Zhang (University of Virginia, USA)

SN 2 - Sensor Networks - II

Room: Room 1, Chair: Ilenia Tinnirello (University of Palermo, Italy)

Node Selection for Cooperative Localization: Efficient Energy vs. Accuracy Trade-off

Albert Bel (Universitat Autonoma de Barcelona, Spain); José López Vicario (Universitat Autonoma de Barcelona, Spain); Gonzalo Seco-Granados (Universitat Autonoma de Barcelona, Spain)

Efficient Robot-based Energy Maintenance in Wireless Sensor Networks

Elio Velazquez (Carleton University, Canada); Nicola Santoro (Carleton University, Canada)

On Learning for Fusion over Fading Channels in Wireless Sensor Networks

Jinho Choi (Swansea University, United Kingdom); Duc To (Swansea University, United Kingdom)

Adaptive Security Level For Data Aggregation in Wireless Sensor Networks

Nabila Labraoui (University of Tlemcen, Algeria); Mourad Gueroui (PRISM, University of Versailles, France); Makhlouf Aliouat (University ferhat Abbes of Setif, Algeria); Jonathan Petit (IRIT - Paul Sabatier University, France)

Elliptic Curve Cryptography Based Mutual Authentication Protocol for Low Computational Complexity Environment

Gyozo Gódor (Budapest University of Technology and Economics, Hungary); Sándor Imre (Technical University of Budapest, Hungary); Norbert Giczi (Budapest University of Technology and Economics, Hungary)

Towards Global Smart Spaces: Merge Wireless Sensor Networks into Context-Aware Systems

Eike Reetz (University of the West of England, United Kingdom); Ralf Tönjes (University of Applied Sciences Osnabrück, Germany); Nigel Baker (University of the West of England, United Kingdom)

WPA - Wireless and Pervasive Networking Applications

Room: Briefing Room, Chair: Carlo Caini (University of Bologna, Italy)

Low-Cost Wireless Link Capacity Estimation

Jonathan Guerin (University of Queensland, Australia); Marius Portmann (University of Queensland, Australia); Konstanty S Bialkowski (National ICT Australia, Australia); Wee Lum Tan (National ICT Australia, Australia); Stephen M Glass (Griffith University, Australia)

Exploiting DHT Functionalities for Pervasive Network Mobility

Raffaele Bolla (University of Genoa, Italy); Andrea Ranieri (University of Genoa, Italy); Matteo Repetto (CNIT, Italy)

DTN meets smartphones: future prospects and tests

Carlo Caini (University of Bologna, Italy); Piero Cornice (University of Bologna, Italy); Rosario Firrincieli (University of Bologna, Italy); Daniele Lacamera (University of Bologna, Italy); Marco Livini (University of Bologna, Italy)

Speaker Count Application for Smartphone Platforms

Mario Marchese (DIST- University of Genoa, Italy); Igor Bisio (University of Genoa, Italy); Fabio Lavagetto (University of Genoa, Italy); Alessio Agneessens (University of Genoa, Italy); Andrea Sciarrone (University of Genoa, Italy)

A Light-Weight Context Representation and Context Management Schema

Michael Knappmeyer (University of Applied Sciences Osnabrück, Germany); Saad Liaquat Kiani (University of the West of England, United Kingdom); Cristina Frà (Telecom Italia, Italy); Moltchanov Boris (Telecom Italia, Italy); Nigel Baker (University of the West of England, United Kingdom)

Adaptive Context Data Distribution with Guaranteed Quality for Mobile Environments

Luca Foschini (University of Bologna, Italy); Antonio Corradi (University of Bologna, Italy); Mario Fanelli (University of Bologna, Italy)

2:00 PM - 3:40 PM

OFDM - OFDM

Room: Main Conference Room, Chair: Giorgio M. Vitetta (University of Modena and Reggio Emilia, Italy)

Characterization of Single-Carrier Block Transmission under the Precoded OFDM Architecture

Ming-Xian Chang (Nation Cheng Kung University, Taiwan)

A Bandwidth Efficient Multiple Access Scheme using MSE-OFDM

Poonam Singh (National Institute Of Technology, Rourkela, India)

Adaptation using Neural Network in Frequency Selective MIMO-OFDM Systems

Halil Yigit (Kocaeli University, Turkey); Adnan Kavak (Kocaeli University, Turkey)

Impact of ICI Management Schemes on Packet Scheduling Strategies in OFDMA Systems

Angela Hernández-Solana (University of Zaragoza, Spain); Israel Guío (University of Zaragoza, Spain); Vanesa Montero (University of Zaragoza, Spain); Antonio Valdovinos (University of Zaragoza, Spain)

WMS - Wireless Multimedia Services

Room: Briefing Room, Chair: Markus Fiedler (Blekinge Institute of Technology, Sweden)

Benchmarking of VoIP over HSDPA and LTE Performance with Realistic Network Data

Kari Aho (Magister Solutions Ltd, Finland); Ilmari Repo (University of Jyväskylä, Finland); Jani Puttonen (Magister Solutions Ltd., Finland); Tero Henttonen (Nokia Research Center, Finland); Martti Moisio (Nokia Research Center, Finland); Janne Kurjenniemi (Magister Solutions Ltd, Finland); Kwangrok Chang (Nokia Siemens Networks, Japan)

Joint BS Assignment and End-to-End Scheduling for Wireless Cellular Networks with Heterogeneous Services

Walid Saad (American University of Beirut, Lebanon); Sanaa Sharafeddine (Lebanese American University, Lebanon); Zaher Dawy (American University of Beirut, Lebanon)

Cross-layer Content/Channel Aware Multi-User Scheduling for Downlink Wireless Video Streaming

Peter Omiyi (Kingston University, United Kingdom); Maria G. Martini (Kingston University, United Kingdom)

Streaming of H.264 video using scalable multiple descriptions and rateless codes

Eugenio Costamagna (University of Pavia, Italy); Lorenzo Favalli (University of Pavia, Italy); Marco Folli (Università di Pavia, Italy); Pietro Savazzi (Università degli Studi di Pavia, Italy)

WNNC - Wireless Networks and Network Coding

Room: Room 1, Chair: Douglas Leith (Hamilton, Ireland)

Realising Max-min Fairness in 802.11e Mesh Networks

Douglas Leith (Hamilton, Ireland); Vijay Subramanian (National University of Ireland, Maynooth, Ireland)

A Scalable Dynamic Spectrum Access Solution for Large Wireless Networks

Nicola Baldo (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Alfred Asterjadhi (University of Padova, Italy); Lorenza Giupponi (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Michele Zorzi (Università degli Studi di Padova, Italy)

Diagnosing the Limitations of Network Coding at Transport Layer

Zheng Liu (Case Western Reserve University, USA); Shudong Jin (Case Western Reserve Univerisy, USA)

Statistical Characterization of Multicast Performance in Dense Wireless Networks

Laura Galluccio (University of Catania, Italy); Giacomo Morabito (University of Catania, Italy); Sergio Palazzo (University of Catania, Italy)

Energy Savings in Wireless Access Networks Through Optimized Network Management

Josip Lorincz (University of Split, Croatia); Massimo Bogarelli (Politecnico di Milano, Italy); Antonio Capone (Politecnico di Milano, Italy)

3:40 PM - 4:20 PM

PS-II - Poster Session II

Room: Loggiato Cortile d'Onore

Achievable Diversity Limits in a Quantized MIMO-OFDM Linear Pre-coded System

Philip R Botha (University of Pretoria, South Africa); Daniel Louw (University of Pretoria, South Africa); Bodhaswar TJ Maharaj (University of Pretoria, South Africa, South Africa)

Performance Analysis of Energy Efficient Asymmetric Coding and Modulation Schemes for Wireless Sensor Networks

Muralidhar Kulkarni (National Institute of Technology Karnataka, India); Govinda M Kamath (National Institute of Technology Karnataka, India); Abhijith Kini G. (National Institute of Technology, NITK-Surathkal, India); Yogesh Shekar (NITK, Surathkal, India); U. Sripati (NIT Surathkal, India)

Wireless Optical OFDM implementation for aircraft Cabin communication links

Dimitrios Marinos (University of Athens, Greece); C.Aidinis (University of Athens, Greece); N.Schmitt (EADS Innovation Works, Ottobrunn, Germany); J.Klaue (EADS Innovation Works, Ottobrunn, Germany); J.Schalk (EADS Innovation Works, Ottobrunn, Germany); T.Pistner (EADS Innovation Works, Ottobrunn, Germany); P.Kouros (Technological Educational Institute of Piraeus, Greece)

Eavesdropping wireless video packets to improve standard multicast transmission in Wi-Fi networks

Pasquale Pace (University of Calabria, Italy); Gianluca Aloi (University of Calabria, Italy); Gianpietro Iannitelli (University of Calabria, Italy)

A Stability-Based Scheduling Scheme for OFDMA Networks

Mohammad Fathi (Amirkabir Universty of Technology, Iran)

SHIL – Sensor Hybridization for Indoor Location based services

Suguna P Subramanian (University of Tuebingen, Germany)

A Cost based Resource Allocation policy for multiservice mobile WiMAX networks

Leonidas Sivridis (University of Wales, United Kingdom); Jinho Choi (Swansea University, United Kingdom); Yue Li (University of Swansea, United Kingdom)

On ML estimation for automatic RSS-based indoor localization

Angelo Coluccia (University of Salento, Italy); Fabio Ricciato (Universitá del Salento, Italy)

WiMAX spectrum efficiency: considerations and simulation results

Aymen Belghith (Université de Rennes 1, France)

Performance of Low-Feedback-Rate, Gradient-Based OFDMA Subcarrier Allocation with Partial Channel Information

Somsak Kittipiyakul (Sirindhorn International Institute of Technology, Thailand); Amnart Boonkajay (Sirindhorn International Institute of Technology, Thailand); Therdkiat Aphichartsuphapkhajorn (Sirindhorn International Institute of Technology, Thailand)

Scalable FFT Processor for MIMO-OFDM Based SDR Systems

Gijung Yang (Korea Aerospace University, Korea); Yunho Jung (Korea Aerospace University, Korea)

UWB Pulse Shaping By FIR Filter To Enhance Power Efficiency

Mahsa Rezaii (Azad University, Iran, Faculty of Engineering, Iran)

4:20 PM - 6:00 PM

CC2 - Cooperative Communications - II Newcom++

Room: Main Conference Room, Chair: Giorgio M. Vitetta (University of Modena and Reggio Emilia, Italy)

On the Capacity of a Class of Relay Channels with Orthogonal Components and Noncausal State Information at Source

Abdellatif Zaidi (Ecole Polytechnique de Louvain, UCL, Belgium); Shlomo Shamai (The Technion, Israel); Pablo Piantanida (SUPELEC, France); Luc Vandendorpe (University of Louvain, Belgium)

Power-Optimized Multi-Hop Multi-Branch Amplify-and-Forward Cooperative Systems

MohammadAli Mohammadi (K.N.Toosi University of Technology, Iran); Behrad Mahboobi (Tehran Univ, Iran); Mehrdad Ardebilipour (Khajeh Nasir university, Iran); Zahra Mobini (K.N.Toosi University of Technology, Iran)

Orthogonal Matrix Precoding for Relay Networks

David Gregoratti (Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Walid Hachem (Telecom-paristech, France); Xavier Mestre (CTTC, Spain)

A Game Theoretical Approach to Node Partitioning in Multi-Source Destination Relay Networks

Simone Sergi (University of Modena and Reggio Emilia, Italy); Giorgio M. Vitetta (University of Modena and Reggio Emilia, Italy)

Relaying Utilization Metrics of Diamond Cooperative Diversity Systems

Theodoros Tsiftsis (Technological Educational Institute (TEI) of Lamia, Greece); Zoran Hadzi-Velkov (Ss. Cyril and Methodius University, Macedonia); George K. Karagiannidis (Aristotle University of Thessaloniki, Greece); Nikola Zlatanov (Ss. Cyril and Methodius University, Macedonia)

Opportunistic Relaying for Cognitive Radio Enhanced Cellular Networks: Infrastructure and Initial Results

Markus Dominik Mueck (Infineon Technologies, Germany); Marco Di Renzo (French National Center for Scientific Research (CNRS), France); Merouane Debbah (Supelec, France)

NCN - Next Generation Cellular Networks

Room: Room 1, Chair: Maurizio Casoni (University of Modena and Reggio Emilia, Italy)

Cooperative Chip-Level HARQ-Chase Combining for the 3GPP Enhanced Uplink System

Messaoud Eljamai (SC Department technopole Brest-Iroise, Brest, France, France); Et tolba Mohamed (Institut Telecom/Telecom Bretagne, France); Ammar Mahmoud (Labo. Sys'Com B.P. 37, Belvedere 1002 Tunis, Tunisia); Samir Saoudi (Telecom-Bretagne, France)

Non-regular Network Performance Comparison between HSDPA and LTE

Jani Puttonen (Magister Solutions Ltd., Finland); Ilmari Repo (University of Jyväskylä, Finland); Kari Aho (Magister Solutions Ltd, Finland); Timo Nihtilä (Magister Solutions Ltd., Finland); Janne Kurjenniemi (Magister Solutions Ltd, Finland); Tero Henttonen (Nokia Research Center, Finland); Martti Moisio (Nokia Research Center, Finland); Kwangrok Chang (Nokia Siemens Networks, Japan)

Influence of the Packet Size on the One-Way Delay on the Down-link in 3G Networks

Patrik Arlos (Blekinge Institute of Technology, Sweden); Markus Fiedler (Blekinge Institute of Technology, Sweden)

Enhancing HSUPA System Level Performance with Dual Carrier Capability

Ilmari Repo (University of Jyväskylä, Finland); Kari Aho (Magister Solutions Ltd, Finland); Sami J Hakola (Nokia, Finland); Thomas Chapman (Roke Manor Research Ltd, United Kingdom); Frans Laakso (University of Jyväskylä, Finland)

Performance of Idle Mode Mobility State Detection Schemes in Evolved UTRAN

Niko Kolehmainen (Magister Solutions Ltd., Finland); Jani Puttonen (Magister Solutions Ltd., Finland); Tero Henttonen (Nokia Research Center, Finland); Jorma Kaikkonen (Nokia, Finland)

WN - WiMAX Networks

Room: Briefing Room, Chair: Piero Castoldi (Scuola Superiore Sant'Anna, Italy)

A Joint Utility Scheduler and SDMA Resource Allocation for Mobile WiMAX Networks

Alberto Nascimento (Univ. Madeira, Portugal); Jonathan Rodriguez (Instituto de Telecomunicações, Portugal)

Pricing, Resources Allocation and Scheduling for WiMAX Systems

Fatma Ghandour (SUPCOM, Tunisia)

Energy Efficient Cooperative Multicasting for MBS WiMAX Traffic

Sara Elrabiei (Alfateh University, Libya); Mohamed Hadi Habaebi (Alfateh University, Libya)

BU Association and Resource Allocation in Integrated PON-WiMAX under Inter-cell Cooperative Transmission

Ming Gong (University of Waterloo, Canada); Bin Lin (University of Waterloo, Canada); Pin-Han Ho (University of Waterloo, Canada)

Performance of Dynamic Service Addition in Mobile WiMAX Networks

Filippo Meucci (University of Florence, Italy); Laura Pierucci (University of Florence, Italy); Isabella Cerutti (Scuola Superiore Sant'Anna, Italy); Piero Castoldi (Scuola Superiore Sant'Anna, Italy); Enrico Del Re (University of Florence, Italy)

ISWPC 2010 Welcome Cocktail

Wednesday, May 5, 8:30 p.m.

Palazzo Ducale, Salone d'Onore





ISWPC 2010 Gala Dinner

Thursday, May 6, 8:00 p.m.

Villa Cesi, Via Provinciale Ovest, 145 – Nonantola (MO)

Bus leaving at 8:00 p.m. from Piazza Roma, outside Palazzo Ducale.





