IEEE CCNC 2013 Badges and Tickets
IEEE CCNC 2013 Badges must be worn at all times and are necessary for entrance into all IEEE CCNC events. Tickets are required for the Saturday and Sunday Luncheons and the Conference Banquet.

Registration
The Registration Desk will be located outside the Sunset Ballroom. All attendees must register and receive a conference badge in order to participate in conference activities.

Hours for the Registration Desk will be:

<table>
<thead>
<tr>
<th>Day</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Friday, Jan 11</td>
<td>07:30 – 18:00</td>
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<tr>
<td>Saturday, Jan 12</td>
<td>08:00 – 18:00</td>
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<tr>
<td>Sunday, Jan 13</td>
<td>08:00 – 18:00</td>
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<tr>
<td>Monday, Jan 14</td>
<td>08:00 – 14:00</td>
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</table>

Conference Meals
Included in the price of the full registration are the Opening Reception, Two Luncheons, Happy Demo Hour and Banquet.

Business Service
Open Monday – Friday from 07:00 – 19:00 and Saturday and Sunday from 08:00 – 17:00. The UPS Store / Business Center offers express packing, notary services, faxing, internet / computer rental stations, wired laptop connectivity, laptop rentals, copies and scanning, desktop publishing, packing and shipping supplies and office equipment.

Internet Access
IEEE CCNC will offer free wireless access in all of the conference meeting rooms on all four days of the conference.

Guest rooms have high speed internet so that you can check emails and work on your laptop from the comfort of your guest room.

A Friendly Reminder
Please turn off anything that chirps, beeps, buzzes or rings which includes but not limited to pagers, beepers, cell phones, PDA and laptops during the conference. The speakers and audience thank you for your consideration and cooperation.

Dress Attire
Business casual is recommended for all daytime and evening IEEE CCNC 2013 events.

Conference Location
All conference events on the schedule at a glance will be held at the Flamingo. The majority of the conference will take place in the Corporate Convention Center.

Flamingo Las Vegas
3555 Las Vegas Blvd. South
Las Vegas, NV 89109
Phone: 888-902-9929
On behalf of the IEEE CCNC 2013 Organizing Committee, it is my pleasure to welcome you to the Tenth Annual IEEE Consumer Communications and Networking Conference.

This year's IEEE CCNC follows its well-recognized tradition of combining theory and practice by bringing together academia and industry in the key future growth area of consumer communications – which, as all of us witness every day, is reshaping the consumer landscape, from social networking and mobile commerce, to entertainment and education. In spite of the tough economic times over the last few years, IEEE CCNC has continued to receive a great number of submissions, allowing us to compile a comprehensive program with many excellent contributions and with numerous distinguished industry experts offering keynotes, workshops and tutorials for our participants.

Reflecting the mix of academia and industry, with many IEEE CCNC participants also visiting CES, this year we continue our integration with CES: the first day of IEEE CCNC overlaps with the final day of CES, a move we hope simplifies participation of CES attendees in the tutorials and workshops.

IEEE CCNC 2013 emphasizes the future direction of the evolution of the consumer communications: convergence of communications and computing enhancing and creating new possibilities of consumer communications and applications. To accommodate the fast evolution, the technical tracks got overhauled and expanded in a great extent, now covering from wireless communications to green communications to intelligent computing. This change lets IEEE CCNC cover what really matters to consumers. But also by choosing targeted topics for our four workshops that explore novel directions and offer a forum for recent research results. Our five tutorials capture the key topics of today’s and tomorrow’s consumer communications and networking. The IEEE CCNC program is completed by an industry panel looking at the enabling technologies and opportunities in smart home energy management. IEEE CCNC thus continues to recognize the need for an exchange across layers, businesses, and academia/industry and provides a premier venue meeting this demand!

We are proud to welcome four high-caliber distinguished speakers from academia and industry who will be sharing their perspectives with us. For the opening keynote on Saturday morning, we are very pleased to present Dr. Donald L. Schilling, Life Fellow of the IEEE and Chairman of LINEX Technologies. On Saturday evening, we are honored to present our second keynote speaker, Dr. Kilsu Eo, Executive Vice President of Samsung Electronics and Vice Chairman of Korea Embedded Software Industry Council. On Sunday morning, we are very pleased to present our third keynote speaker from Microsoft. Finally, we are happy to announce our fourth keynote, scheduled for Sunday evening, will be given by Dr. I.P. Park, Executive Vice President and CTO of HARMAN International.

We are confident that you will find a multitude of stimulating presentations in the technical sessions for which we want to thank Jin Li for putting together an extremely strong set of papers across all topics relevant to consumer communications. Jin’s introduction on the following pages will provide you with further guidance where to set your sights on. The regular sessions are augmented by work-in-progress-style short papers. This year’s IEEE CCNC will continue the past success of live demonstrations, emphasizing its practical side. We are happy to offer two demonstration sessions, these follow the lunch break on Saturday and Sunday.

It is exciting to hold the first Grand Challenge in IEEE CCNC, which is going to be a very special live event, Mobile Code Jam, this year where researchers and students present their creative ideas and programming skills in developing innovative and socially valuable mobile apps while competing for cash prizes.

Following the popularity of the previous years, we again offer complimentary tutorials to all attendees. IEEE CCNC 2013 features five tutorials on a broad set of topics, from advances in home networking standardization to vehicular networking. Please check the variety of offerings. The tutorials will be taking place on Friday and Monday.

Finally, I want to extend my thanks to the people who are truly responsible for making this conference a success through their generous contributions of time and energy. My thanks to: Jin Li, Technical Program Chair; Cheng Huang, Grand Challenge Chair; Stan Moyer, Industry Session Chair; Frank den Hartog and Venkatesh Prasad, Demo Co-Chairs; Alexandros G. Dimakis, Workshop Chair; Sudipta Sengupta, Tutorial Chair; Alex Gelman, Publicity Chair; Rob Fish, Patron Chair; Henry Holtzman, Best Paper Award Chair; Bruce Worthman, Treasurer; Heather Sweeney, Marketing; and finally special thanks to Diane Williams, who as ComSoc Project Manager did – once more – a tremendous job of pulling everything together.

We are looking forward to exciting event and hope that you will find IEEE CCNC 2013 to be enjoyable and a great place to discuss and network.

IEEE CCNC 2013 General Chair
Eunsoo Shim
Samsung Electronics, Korea
On behalf of the Technical Program Committee, I warmly welcome you to Las Vegas for an exciting technical program offered by the 2013 IEEE Consumer Communications and Networking Conference (CCNC).

Overlapping the 2013 International Consumer Electronics Show (CES), IEEE CCNC was specifically organized by the IEEE Communications Society (ComSoc) to drive the development of global consumer electronics technologies that will one day provide access to information anytime, anywhere, regardless of time or location. The conference enjoys strong support and participation from the consumer electronics industry and provides a mutually beneficial mix of academic and industrial participation.

This year, we have expanded the technical scopes of IEEE CCNC to include 13 sessions. They are:

- Mobile Device, Platform and Applications
- Social Networking & Social Media
- Wireless Networking
- Peer-to-Peer Networking and Cloud-based Content Distribution
- Multimedia Networking, Services and Applications
- Smart Spaces and Sensor Networks
- Security, Content Protection and DRM
- Vehicular Communications and Networking: V2V, V2I, V2R and V2U
- Green Communications and Computations
- eHealth, Ambient Assisted Living
- Intelligent and Emotion-oriented Computing
- 3D Imaging, Processing, Communication and Display

We are pleased to report a strong technical program with exceptional quality. The IEEE CCNC 2013 main program received 313 submissions. Lead by 18 Vice TPC Chairs, 402 reviewers were recruited to provide a rigorous double-blind review. On average, each paper received 3 independent reviews (910 reviews total). These reviews served as the basis to select 95 papers for presentation (30% acceptance rate). In addition, 47 papers have been selected to present in the work-in-progress session.

During the main conference (January 12-14, 2013, Saturday to Monday), IEEE CCNC 2013 will start with a keynote talk delivered by a world class scientist/practitioner. After that, the accepted papers will be presented in four parallel sessions. One oral session will be presented in the morning, and two additional oral sessions will be presented in the afternoon. A panel on Home Energy Management Networking will be presented in the afternoon of Saturday, January 12, 2013. We have designed the program considering the diversified background of IEEE CCNC audience, so that you can always find a high quality talk of your interest at any given time, be it a high quality paper presentation or a panel. In addition, a one hour demo session will be held each afternoon after lunch to showcase a selection of exciting leading edge consumer communication demos, some of which will be presented at the Consumer Electronics Show (CES) at IEEE booth. The paper in the Work-In-Progress program will be presented on Monday, January 14, 2013.

One unique feature of IEEE CCNC 2013 is that the audience will be invited to vote for the best paper award and best student paper award of IEEE CCNC 2013. Each registered attendee will receive a voting sheet. Their votes will be combined with votes from an on-site award committee to determine the awards of IEEE CCNC 2013, which will be announced at the banquet.

IEEE CCNC 2013 will offer five tutorials shared by world experts. IEEE CCNC 2013 will also present four workshops (15 accepted papers in total), which are:

- Workshop on Consumer eHealth Platforms, Services and Applications;
- Workshop on Internet of Things- RFIDs, WSNs and Beyond;
- Workshop on People Centric Sensing and Communications;
- Touch of Genius – Script any Device with TouchDevelop.

I am excited that we will hold the first Grand Challenge at IEEE CCNC, which is going to be a very special live event, Mobile Code Jam, where researchers and students present their creative ideas and programming skills in developing innovative and socially valuable mobile apps while competing for cash prizes at IEEE CCNC 2013.

All this would not have been possible without the tremendous efforts of volunteers organizing the technical tracks, workshops, tutorials, panels and demos; and the many TPC members and reviewers that provide the input for the papers at IEEE CCNC 2013. Most notably, I would like to thank the TPC Vice Chairs: Ben Falck, ACS/Ericsson; Henry Holtzman, MIT (also Best Paper Award Chair); Angela Yingjun Zhang, CUHK, Wei Chen, Tsinghua University; Xi Zhang, Texas A&M University; Wei Yu, Towson University; Kurt Tutschku, University of Vienna; Marie-Jose Montpetit, MIT; Damla Turgut, Univ. of Central Florida; Frederick T. Sheldon, Oak Ridge National Laboratory; Ton Kalker, Huawei; David Matolak, Ohio University; Richard Yu, Carleton University; Pradeep Ray, Australian School of Business; Artur Serrano, NSF; Youngsang Choi, Samsung; Du Sik Park, Samsung; Seungsin Lee, Samsung; Tutorial Chair: Sudipta Sengupta, Microsoft; Demonstration Co-Chairs: Frank den Hartog, TNO; Venkatesha Prasad, TU Delft; Grand Challenge Chair: Cheng Huang, Microsoft; Industrial Chair: Stan Moyer, Inventures; and Student Council Chairs: Yanjiao Chen, HKUST; and Vida Ferdowsi, University of Missouri.

I would also like to thank Workshop Chair: Alex Dimakis, USC; and the workshop organizers.

A very special thanks goes to the Conference General Chair, Eunsoo Shim, Samsung, for his leadership and the Steering Committee Chair: Rob Fish for his support of the organization committee to make IEEE CCNC 2013 a success. I would also like to express sincere thanks and gratitude to Diane Williams, who as the Conference Manager has done a tremendous detailed job supporting the conference as a whole. Finally, I would also like to thank our patrons: Samsung, Harmon and Microsoft at Diamond level, and TNO, Quby, Ether Trust and Aniketos at Demo level.

I hope that you will enjoy our high-quality technical program; and will take advantage of the opportunities to learn about the latest research findings and the state-of-the-art consumer communications and networking technologies. Hopefully, you will have a chance to see old friends and make new ones; and will have an opportunity to discuss exciting new ideas with your colleagues. Please also enjoy the excellent food and shows in the evening in the special city of Las Vegas!

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Microsoft, USA
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Joerg Widmer, Institute IMDEA Networks
Xiaotao Wu, Avaya Labs Research
Halyong Xie, Huawei Technologies

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Maja Matijasevic, University of Zagreb
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Sherif Rashad, Morehead State University
Marco Roccetti, University of Bologna
Ana Luisa Santos, Mob376
Binod Vaidya, University of Ottawa
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Chair: Damla Turgut, University of Central Florida
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Maode Ma, Nanyang Technological University
Maja Matijasevic, University of Zagreb
Hadi Otrok, Khalifa University of Science, Technology & Research
Sherif Rashad, Morehead State University
Marco Roccetti, University of Bologna
Ana Luisa Santos, Mob376
Binod Vaidya, University of Ottawa
Smart Spaces and Sensor Networks
Chair: Damla Turgut, University of Central Florida
Frederick T. Sheldon, ORNL
Charles Addo-Quaye, Penn State University
Regina Araujo, Federal University of São Carlos
Ladislau Bölöni, University of Central Florida
Eleonora Borgia, IIT-CNR
Bogdan Carbunar, Florida International University
Yusun Chang, Southern Polytechnic State University
Yang Cui, Huawei Technologies
Kostas Pantelopoulos, Florida International University
Yusun Chang, Southern Polytechnic State University
Yang Cui, Huawei Technologies
Yan Dong, Huazhong University of Science and Technology
Melike Erol-Kantarci, University of Ottawa
Vasilis Friderikos, King’s College London
Bilal Gonen, University of West Florida
Sassan Iraji, Aalto University
Susumu Ishihara, Shizuoka University
Evens Jean, Dynamics Research Corporation
Wei Jiang, MS&T
Burak Kantarci, University of Ottawa
Krishna Kavi, University of North Texas
Samee Khan, North Dakota State University
Sung-Min Lee, Samsung Electronics
Yong-Jin Lee, Korea National University of Education
Marco Levorato, Stanford University
Cheng Li, Memorial University of Newfoundland
Wenzhong Li, Nanjing University
Chong Luo, Microsoft Research Asia
Hsi-Pin Ma, National Tsing Hua University
Ivan Martinovic, University of Oxford
Liam Murphy, University College Dublin
Richard Pazzi, University of Ontario Institute of Technology
Luigi Pomante, University of L’Aquila
Sridhar Radhakrishnan, University of Oklahoma
Saheb Sedigh, Missouri University of Science and Technology
Abdallah Shami, The University of Western Ontario
Mujdat Soyturk, Istanbul Technical University
Young-Joo Suh, Pohang University of Science and Technology
Djamshid Tavangarian, University of Maryland
Begumhan Turgut, Rutgers University
Selcuk Uluaagac, Georgia Institute of Technology
Guoqiang Wang, Yahoo
Guang-Hua Yang, The University of Hong Kong
Kai Zheng, IBM China Research Lab

Vehicular Communications and Networking: V2V, V2I, V2R, and V2U
Chair: David Matolak, Ohio University
Onur Altintas, Toyota InfoTechnology Center
Oliver Klemm, BMW Group Research and Technology
Dimitrie Popescu, Old Dominion University
Christoph Sommer, University of Innsbruck

Green Communications and Computations
Chairs: Xi Zhang, Texas A&M University
F. Richard Yu, Carleton University
Raffaele Bolla, University of Genoa
Bing Bu, Carleton University
Giovanna Carofiglio, Bell Labs, Alcatel-Lucent
Min Chen, Huazhong University of Science and Technology
Peter H. J. Chong, Nanyang Technological University
Alberto Conte, Alcatel-Lucent
Paul Cotae, University of The District of Columbia
Anthony Ephremides, University of Maryland at College Park
Liquan Fu, The Chinese University of Hong Kong
Nasir Ghani, University of New Mexico
Kyle Guan, Bell Labs, Alcatel-Lucent
Carmen Guerrero, University Carlos III of Madrid
Ekram Hossain, University of Manitoba
Weisheng Hu, Shanghai Jiao Tong University
Yaohtui Jin, Shanghai Jiaotong University
Christoph Lange, Deutsche Telekom AG
Jun Li, Communications Research Centre of Canada
Wei Lou, The Hong Kong Polytechnic University
Konstantina Papagiannaki, Telefonica Research
Achille Pattavina, Politecnico di Milano
Balaj Renganarajan, Institute IMDEA Networks
Catherine Rosenberg, University of Waterloo
Dario Rossi, Telecom ParisTech
Pengbo Si, Beijing University of Technology
Leandros Tassilius, University of Thessaly

Telepresence & Tele-robot
Chairs: Cha Zhang, Microsoft
Ruigang Yang, University of Kentucky
Harlyn Baker, Hewlett-Packard Labs
Pierre Boulanger, University of Alberta
Prasad Calyam, The Ohio State University
Chang Wen Chen, State University of New York, Buffalo
Gene Cheung, National Institute of Informatics
Carl Debono, University of Malta
Atanas Gotchev, Tampere University of Technology
JongWoon Kim, GIST
Maja Matijasevic, University of Zagreb
Ibrahim Sezan, Sharp Laboratories of America
Kar-Han Tan, Hewlett-Packard
Binod Vaidya, University of Ottawa
Ji-Zheng Xu, Microsoft Research Asia
Zhenyu Yang, Florida International University
Heather Yu, Huawei Technologies
Chang Yuan, Sharp Labs of America
Junsong Yuan, Nanyang Technological University
Fan Zhai, Texas Instruments
Marcelo Zuffo, University of Sao Paulo

Intelligent and Emotion-oriented Computing
Chair: Youngsang Choi, Samsung
Heeyoul Choi, Samsung Advanced Institute of Technology
K. Kishore Dhara, Avaya Labs Research
Ricardo Gutierrez-Osuna, Texas A&M University
Paul Jeon, Samsung Advanced Institute of Technology
Hyun-Jun Kim, Samsung Advanced Institute of Technology
Hosub Lee, Samsung Electronics
Pratibha Moogi, Samsung India Software Operation
Boris Motik, Oxford University
Guruprasad Seshadri, Tata Consultancy Services
Xiaotao Wu, Avaya Labs Research
Ji Soo Yi, Purdue University
Byoung-Tak Zhang, Seoul National University

3D Imaging, Processing, Communication and Display
Chairs: Du Sik Park, Samsung Electronics
Seungsin Lee, Samsung Electronics
Atanas Gotchev, Tampere University of Technology
Changkyu Choi, Samsung Electronics
Chang-Su Kim, Korea University
Eric Diehl, Technicolor
Jun Arai, NHK
Dokyoon Kim, Samsung Electronics
Martin Banks, UC Berkeley
Namho Hur, ETRI
Radu Horaud, INRIA
**T1: Advances in Home Networking Standardization and Related Research Opportunities**

_Instructor: Frank den Hartog_ (TNO, Netherlands)

Sometimes, the worlds of standardization and academic research seem far apart. However, home networking scientists and developers need to understand in which context their technology is expected to operate, in order to optimize the chance that their products will co-exist and interoperate with other systems in the consumer space. The focus of the tutorial will be on the role of standardization in the home networking field, how it works, what the main forces are, and why it is so opaque and complex. This will be illustrated in the light of current trends: the introduction of ICT from new domains (energy, health, ...) and the need for convergence and interoperability with ICT from established domains (telecom, consumer electronics, Internet). The second part of the tutorial will discuss the current status in home networking standardization: “official” bodies such as IEEE, ETSI, ISO/IEC, CENELEC, ITU, but also industry initiatives such as IETF, HGI, DLNA, UPnP Forum, Broadband Forum, Continua, PUC, ATIS, DVB, EnOcean Alliance, OSGi, CECE, DLMS, Zigbee Alliance, etc. The emphasis will be on the standards that are relevant today, with a focus on new developments, such as IEEE-802.11ac and -1905.1, DLNA CVP, UPnP-HEMS, -DMS, and -EHS, DECT ULE, and G.hnem and G.phnt. The final hour will be spend on related research questions: architectures for convergence, co-existence issues, migration and scalability studies, etc.

**T2: Emerging Technologies for Future Tele-Communication**

_Instructors: Cha Zhang_ (Microsoft Research, USA)
_Ruigang Yang_ (University of Kentucky, USA)

Telecommunication has become an integrated part of people’s work and life. In this tutorial, we aim to provide an overview of some recent advances in technologies that enable more immersive telecommunication applications. Key topics covered by this tutorial include sound source localization from compact microphone arrays, 3D spatial sound and multi-channel echo cancellation, various real-time video processing techniques for enhancing conferencing experiences, and a few explorations on depth sensors in tele-communication applications.
The combination of the application store phenomenon and rapidly evolving hardware and software capabilities has transformed smartphones into the electronic equivalent of a Swiss Army knife. Smartphones provide services ranging from navigation to entertainment, and mobile applications make that content accessible anytime, anywhere.

However, automobiles remain the one environment where most people have seen little change in accessibility due to safety concerns. Many have resorted to the dangerous habit of using their handheld mobile devices while driving, sparking new laws aimed at reducing the number of distracted drivers. But as societies have become more industrialized, the amount of time people spend in their vehicles has increased sharply. Even if users are willing to install expensive in-vehicle infotainment (IVI) systems or head units, they’re usually restricted to a limited number of applications provided by the car manufacturer because of the closed and specialized nature of existing platforms.

The automotive industry has started addressing this challenging, introducing various concepts to allow some level smartphone integration into some of their models, like Ford Sync, BMW MiniConnect or Harman Aha and many more. The Car Connectivity Consortium (www.carconnectivity.com) has developed MirrorLink™ to address this challenge providing a global approach, not limited by any proprietary solutions. MirrorLink™ allows smartphones to self-integrate into IVI systems, transforming them from mobile application platforms into automotive application platforms. The technology allows for rich, high-resolution graphical user-interfaces. It opens up opportunities to develop and deploy mobile applications that are customized for in-vehicle use while maintaining a safe user experience, integrating an Application Certification program.

Friday, January 11, 2013  •  13:00 – 18:00
Room: Laughlin III

**1st Workshop on People Centric Sensing and Communications**

**Chairs:** Hosub Lee (Samsung, USA)
John Buford (Avaya Labs, USA)

**A Game Theory Model for Situation Awareness and Management**
Mark D. Rahmes, Kathy Wilder, Kevin Fox, Rick Pemble (Harris Corporation, USA)

**Activity Recognition Using Smartphone Sensors**
Alvina Anjum, Muhammad Usman Ilyas (National University of Sciences & Technology, Pakistan)

**Gossipmule: Improving Association Decisions via Opportunistic Recommendations**
Mónica Alejandra Lora, Alexander Paulus, Klaus Wehrle (RWTH Aachen University, Germany)

**Improved Transient Weather Reporting Using People Centric Sensing**
William D. Phillips, Ravi Sankar (University of South Florida, USA)

**Leveraging Real-world Data While Protecting Privacy - Framework Using Personal Agent System for Distributed Data**
Tomohiro Inoue, Taichi Kawabata, Hiroyuki Maeomichi, Mika Ishizuka, Koichi Takasugi, Akihiro Tsutsui, Ikuo Yoda (NTT, Japan)
Opening & Keynote Address

Saturday, January 12, 2013 • 08:30 – 09:00
Room: Vista Room

Vision of Wireless Consumer Communications
Donald L. Schilling
Chairman, LINEX Technologies

See page 20 for abstract.

Best Paper Candidate Talk
Chair: Eunsoo Shim (Samsung, Korea)

Dynamic Media Streaming with Predictable Reliability and Opportunistic TCP-Friendliness
Manuel Gorius, Yongtao Shuai, Thorsten Herfet (Saarland University, Germany)

Estimation of QoE of Video Traffic using a Fuzzy Expert System
Jaejun Nak, Su-moon Choi, Hyun-joong Kim (SNU, Korea)

MOVi: Opportunity Extension for Mobile peer-to-peer Video on Demand
Hyun Lee, Jae-Yong Yoo, Jongwon Kim (Gwangju Institute of Science & Technology, Korea)

QoE-based Resource Reservation for Unperceivable Video Quality Fluctuation during Handover in LTE
Mohammed Shehada, Bo Fu, Srisakul Thakolsri (DoCoMo Euro-Labs, Germany)

A Multidimensional Heuristic for Social Routing in Peer-to-Peer Networks
Shuo Jia, Pierre T. St. Juste, Renato Figueiredo (University of Florida, USA)

Peer-to-Peer
Chair: Chai Kiat Yeo (Nanyang Technological University, Singapore)

A Hybrid Peer Selection Scheme for Enhanced Network and Application Performances
Xu Zhang, Ning Wang, Michael P. Howarth (University of Surrey, UK)

Dual-Metric Hybrid Protocol for Application Level Multicast for Live Video Streaming
Chai Kiat Yeo, Yang Xia, Bu Sung Lee, Yuanyuan Mao, In Yann Soon, Zeebir Bong (Nanyang Technological University, Singapore)

Hamming DHT: Taming the Similarity Search
Rodolfo da Silva Villaca (State University of Campinas, Brazil)
Luciano Bernardes de Paula (IFSP, Brazil)
Rafael Pasquini (Federal University of Uberlândia, Brazil)
Mauricio Ferreira Magalhaes (State University of Campinas, Brazil)

H incent: Quick Content Distribution With Priorities and High Incentives
Debessay Fesehaye Kassa, Klara Nahrstedt (University of Illinois, Urbana-Champaign, USA)
SATURDAY PROGRAM
DEMONS • TECHNICAL SESSIONS

Saturday, January 12, 2013  •  12:30 – 13:30
Room: Scenic Room

DEMONS

Demonstrations
See pages 24-26 for demo descriptions.

Saturday, January 12, 2013  •  13:30 – 15:30
Room: Laughlin II
Best Paper Candidate Talk
Chair: Rob Fish (NETovations, LLC, USA)

A Nash-Stackelberg Multiplicative Weighted Imitative CODIPAS-RL Scheme
Muhammad Shoaib Saleem, Eric Renault
(Telecom & Management SudParis, France)

Asymmetric Resource Allocation for OFDMA Networks with Collaborative Relays
Zheng Chang, Tapani Ristaniemi (University of Jyväskylä, Finland)

Design and Analysis of a Cluster-based Calcium Signaling Network Model
Yiqun Yang, Chai Kiat Yeo
(Nanyang Technological University, Singapore)

P-ARQ: Controllable PLL ARQ method for wireless low power communication
Hyojun Hwang, Jaesup Lee, ChiSung Bae, Young-Jun Hong
(Samsung Electronics, Korea)

WFIC: A New Mechanism for Provision of QoS and Congestion Control in WiMAX
Fatima Furqan, Doan B. Hoang
(University of Technology, Sydney, Australia)

Saturday, January 12, 2013  •  13:30 – 15:30
Room: Laughlin I
Wireless Communication II
Chair: Wing Cheong Lau
(Chinese University of Hong Kong, Hong Kong)

A Structured Approach to Optimization of Energy Harvesting Wireless Sensor Networks
Nicholas Roseveare, Bala Natarajan (Kansas State University, USA)

Decentralized Multi-Cell Beamforming with Base Station Cooperation
Siddharth Deshmukh, Sayak Bose, Bala Natarajan
(Kansas State University, USA)

Interaction between Isolated Resonators in Near Field Channel
Sang Joon Kim, Seung Keun Yoon, Uikun Kwon
(Samsung Electronics, Korea)

NPA: Protocol for Secure Communications in GSM Cellular Network
Neetesh Saxena, Narendra S. Chaudhari
(Indian Institute of Technology Indore, India)

PHY Front End Design for Emerging 60 GHz Multi-Gigabit Wireless Devices
Lochan Verma, Mohammad Fakhrzadeh
(Peraso Technologies Inc., Canada)

Saturday, January 12, 2013  •  13:30 – 15:30
Room: Reno I
Sensor Network I
Chair: Youngsoo Kim (Samsung, Korea)

A Robust Wearable Health Monitoring System Based on WSN
Young Hwan Kim, Kuk Jin Jang, Seung-chul Lee, Chang Won Park
(Korea Electronics Technology Institute, Korea)
Hee Yong Youn (Sungkyunkwan University, Korea)

Energy-Efficient Data Collection in Multiple Mobile Gateways
WSN-MCN Convergence System
Fei Yin, Zhenhong Li, Haifeng Wang
(Renesas Mobile Corporation, China)

Energy-Efficient Two-Dimensional Skyline Query Processing in Wireless Sensor Networks
Yohan Roh (SAIT, Samsung Electronics, Korea)
In-Chul Song
(Korea Advanced Institute of Science and Technology, Korea)
Joo Hyuk Jeon, Kyoung-Gu Woo (SAIT, Samsung Electronics, Korea)
Myoung Ho Kim
(Korea Advanced Institute of Science and Technology, Korea)

Multi-Channel Multi-Path Video Transmission over Wireless Sensor Networks
Syed Muhammad Asad Zaidi, Jieun Jung, Byunghun Song,
Hyung Su Lee (Korea Electronics Technology Institute, Korea)
Hee Yong Youn (Sungkyunkwan University, Korea)

Olusegun O. Odejide (Prairie View A&M University, USA)
Elizabeth Bentley (AFRL/RI, Vietnam)
Lisimachos P. Kondi (University of Ioannina, Greece)
John D. Matyjas (Air Force Research Laboratory, USA)

Saturday, January 12, 2013  •  13:30 – 15:30
Room: Reno II
Multimedia Networking I
Chair: Marie-Jose Montpetit (MIT, USA)

A Multidimensional QoE Monitoring System for Audiovisual and Haptic Interactive IP Communications
Eiichi Isomura, Shuji Tasaka, Toshiro Nunome
(Nagoya Institute of Technology, Japan)

An Adaptive TCP Congestion Control having RTT-Fairness and Inter-Protocol Friendliness
Yohel Nemoto, Kazumine Ogura, Jiro Katto (Waseda University, Japan)

Analysis of Synchronization Issues for Live Video- Context Transmission Service
Houssein Wehbe, Ahmed Bouabdallah
(Institut Mines-Telecom - Telecom Bretagne, France)
Bruno Stevant (Telecom Bretagne, France)
Usama Mir (Institut Mines-Telecom - Telecom Bretagne, France)

Prototype Implementation of a Visual Communication System Employing Video Imagery
Scott Kuzdeba (BAE Systems, USA)
Alexander M. Wyglinski (Worcester Polytechnic Institute, USA)
Brandon Hombs (BAE Systems, USA)

Utility Function for Predicting IPTV Quality of Experience Based on Delay in Overlay Networks
Imad Abdeljaouad, Ahmed Karmouch
(University of Ottawa, Canada)
Home Energy Management Networking Panel
Electricity grids are being upgraded very rapidly and become "smart." Electricity consuming, producing, and measuring devices in people’s homes are expected to carry an important part of the Smart Grids’ intelligence. But related network architectures and protocols are still in their infancy. In a highly interactive session, the panelists will share their view on the future developments and research needs in home energy management networking.

Panelists:
Duncan Bee (CTO, HGI)
Don Dulchinos (Senior VP, Cable Labs)
Arjen Noorbergen (CTO, Quby)
Varun Nagaraj (Senior VP, Product Management & Marketing, Echelon)

Green Communication
Chair: Hyo Seok Yi (Harvard, USA)

2D Sliced Packet Buffer with Traffic Volume and Buffer Occupancy Adaptation for Power Saving
Kenzo Okuda, Shingo Ata (Osaka City University, Japan)
Yasuto Kuroda, Yuji Yano, Hisashi Iwamoto (Renesas Electronics Corporation, Japan)
Kazunari Inoue, Ikuo Oka (Osaka City University, Japan)

Energy-Efficient Base-Station Topologies for Green Cellular Networks
Won-Yong Shin (Dankook University, Korea)
Hyo Seok Yi, Vahid Tarokh (Harvard University, USA)

On Effective Data Aggregation Techniques in Host-based Intrusion Detection in MANET
Difan Zhang, Limiang Ge (Towson University, USA)
Rommie Hardy (US Army Research Lab, USA)
Hanlin Zhang, Wei Yu (Towson University, USA)
Robert J Reschly, Jr. (US Army Research Lab, USA)

Towards Energy-Efficient Cooperative Routing Algorithms in Wireless Networks
Yu Wang, Xinyu Yang (Xi’an Jiaotong University, China)
Shusen Yang (Imperial College London, UK)
Wei Yu, Sulabh Bhattarai (Towson University, USA)
Dan Shen, Genshe Chen (Intelligent Fusion Technology, Inc, USA)

Low Complexity Independent Multi-View Video Coding
Hany Hussein (Egypt-Japan University for Science and Technology, Japan)
Mostafa El-Khamy (Alexandria University, Egypt)
Farhad Mehdipour (Kyushu University, Japan)
Mohamed El-Sharkawy (Purdue School of Engineering and Technology, USA)

Depth Resampling for Mixed Resolution Multiview 3D Videos
Seok Lee, Seungsin Lee, Hochen Wey, Jaejoon Lee, Dusik Park (Samsung Electronics, Korea)

Vehicle Network
Chair: Satoshi Makido (Toyota Central R&D Labs, Japan)

Compressive Sensing Based Image Transmission for Multiuser V2X Communications
Satoshi Makido, Masaki Takanashi (Toyota Central R&D Labs., Inc., Japan)

Dynamic Service-Channels Allocation (DSCA) in Vehicular Ad Hoc Networks
Sung Jin Park (Georgia Institute of Technology, USA)
Yusun Chang (Southern Polytechnic State University, USA)
Faisal Ahmad Khan, John A. Copeland (Georgia Institute of Technology, USA)

Stability Analysis of Congestion Control Schemes in Vehicular Ad Hoc Networks
Neda Nasiriani, Yaser P. Fallah (West Virginia University, USA)
Harirahan Krishnan (General Motors, USA)
KEYNOTE

Sunday, January 13, 2013  •  08:30 – 09:30
Room: Vista Room

Keynote Address
(Microsoft)

SDN in Windows Azure Cloud
Albert Greenberg
Partner Development Manager
Microsoft

Award Presentations

Sunday, January 13, 2013  •  10:00 – 12:00
Room: Laughlin II

Best Paper Candidate Talk
Chair: Alexander Gelman (NETovations, LLC, USA)

Plan Segmentation and Decimation of Point Clouds for 3D Environment Reconstruction
Lingni Ma, Raphael J.J. Favier, Luat Do, Egor Bondarev, Peter H.N. de Wit (Eindhoven University of Technology, Netherlands)

Energy Efficiency of Collaborative OFDMA Mobile Clusters
Zheng Chang, Tapani Ristaniemi (University of Jyväskylä, Finland)

Everyday Mobility Context Classification using Radio Beacons
Minyoung Mun (SAIT, Samsung Electronics, Korea)

Distributed Autonomous Multi-Hop Vehicle-to-Vehicle Communications over TV White Space
Yutaka Ihara, Haris Kremo, Onur Altintas, Hideaki Tanaka (Toyota InfoTechnology Center, Japan)
Masaaki Ohtake, Takeo Fujii (University of Electro-Communications, Japan)
Chikara Yoshimura, Keisuke Ando, Kazuya Tsukamoto, Masato Tsuru, Yuji Oie (Kyushu Institute of Technology, Japan)

Goodput Improvement for Multi-path TCP by Congestion Window Adaptation in Multi-Radio Devices
Dizhi Zhou, Wei Song (University of New Brunswick, Canada)
Minghui Shi (Industry Canada, Canada)

Sunday, January 13, 2013  •  10:00 – 12:00
Room: Laughlin I

Wireless Communication III
Chair: David Stynes (University College Cork, Ireland)

A Novel Network Coded Relay-Assisted Hybrid-ARQ Scheme
Yue Ma, Liuhua Li, Jin Jin, Yijing Liu (Beijing University of Posts and Telecommunications, China)

AGC and ADC Effects on Receiver Performance in FDM based Narrowband Wireless Systems
Shusuke Narieda (Akashi National College of Technology, Japan)

Cooperative Code-sharing for UMTS Femtocells
David Stynes, Kenneth N. Brown (University College Cork, Ireland)
Eric Jul (Bell Labs, Alcatel-Lucent Ireland Ltd, Ireland)

Managing Downlink Multi-User MIMO Transmission Using Group Membership
Osama Aboul-Magd (Hauwei Technologies, Canada)
Uiuk Kwon, Youngsoo Kim (Samsung Electronics, Korea)
Chunhui Zhu (Samsung Electronics, USA)

Minimizing Transmit Power for Cooperative Multicell System with Massive MIMO
Jinkyu Kang, Joohyuk Kang (KAIST, Korea)
Namjeong Lee, Byung Moo Lee, Jongho Bang (Samsung, Korea)

Sunday, January 13, 2013  •  10:00 – 12:00
Room: Reno II

Multimedia Networking II
Chair: James Martin (Clemson University, USA)

CoCam: A Collaborative Content Sharing Framework Based on Opportunistic P2P Networking
Eyal Toledano, Henry Holtzman, Andrew Lippman, Federico Casalegno, Dan Sawada (MIT, USA)

Characterizing Netflix Bandwidth Consumption
Jim Martin, Yunhui Fu, Nicholas Wourms (Clemson University, USA)
Terry Shaw (Cable Television Laboratories, Inc., USA)

Experience with Collaborative Conferencing Applications in Named-Data Networks
Jun Wei (Huawei Technologies, USA)
Duy D. Nguyen (University of California, Santa Cruz, USA)
J. J. Garcia-Luna-Aceves (PARC, USA)
Kathleen Nichols (Pollere, Inc, USA)

Packet Wait Times in Voice over IP Wireless Reverse Links
Richard Framjee, Jonathan Bredow (University of Texas, Arlington, USA)

Sunday, January 13, 2013  •  10:00 – 12:00
Room: Laughlin III

Social Networking/Security
Chair: Marie-Jose Montpetit (MIT, USA)

Denial of Convenience Attack to Smartphones Using a Fake Wi-Fi Access Point
Erich Dondyk, Cliff Zou (University of Central Florida, USA)

JURD: Joiner of Un-Readable Documents to Reverse Tokenization Attacks to Content-based Spam Filters
Igors Santos, Carlos Laorden, Borja Sanz, Pablo Garcia Bringas (University of Deusto, Spain)

Towards Practical Privacy-preserving Digital Rights Management for Cloud Computing
Ronald Petric (University of Paderborn, Germany)
Nakul Joshi (University of Southern California, USA)

Enabling Decentralized Microblogging through P2VPNs
Pierre T. St. Juste, Heungsik Eom, Kyungyong Lee, Renato Figueiredo (University of Florida, USA)
ContextController: Augmenting Broadcast TV with Real-Time Contextual Information
Robert Hemsley, Arlene Ducao, Eyal Toledano, Henry Holtzman (MIT Media Lab, USA)

Sunday, January 13, 2013 • 14:00 – 16:00
Room: Reno II

Wireless Networking II
Chair: Wei Yu (Townson University, USA)

A Novel Wireless Network Access Selection Scheme For Heterogeneous Multimedia Traffic
Abolfazl Mehbodnia (Tohoku University, Japan)
Faisal Kaleem, Kang Yen (Florida International University, USA)
Fumiyuki Adachi (Tohoku University, Japan)

Congestion-based Automatic Calling for Improving Call Establishment in VoLTE
Satoshi Komorita, Yoshinori Kitatsuji, Hitoshi Yokota (KDDI Labs, Japan)

Formation of Cooperative Cluster for Coordinated Transmission in Multi-Cell Wireless Networks
Jung-Min Moon, Dong-Ho Cho (Korea Advanced Institute of Science and Technology, Korea)

Group Size Studies for Collaborated Sensors/Robots
Bo Fu, Yang Xiao (University of Alabama, USA)

Min-Cut Based Partitioning for Urban LTE Cell Site Planning
Alexander Engels, Michael Reyer, Andreas Steiger, Rudolf Mathar (RWTH Aachen University, Germany)

Sunday, January 13, 2013 • 13:30 – 14:00
Room: Scenic Room

Demonstrations
See pages 24-26 for demo descriptions.

Sunday, January 13, 2013 • 14:00 – 16:00
Room: Laughlin I

Wireless Communication IV
Chair: Jaspreet Singh (Samsung, USA)

Channel-Adaptive Sensing Strategy for Cognitive Radio Ad Hoc Networks
Yuan Lu, Alexandra Duel-Hallen (North Carolina State University, USA)

GF(q) LDPC Decoder Design for FPGA Implementation
Wojciech Sulek, Marcin Kucharczyk, Grzegorz Dziwoki (Silesian University of Technology, Poland)

Low-Complexity Optimal CSI Feedback in LTE
Jaspreet Singh, Zhouyue Pi, Hoang Nguyen (Samsung Telecom America, USA)

Optimal Spectrum Allocation Considering the Heterogeneity of Channel and Secondary Users
Wenjie Zhang, Chai Kiat Yeo, Yifan Li (Nanyang Technical University, Singapore)

Bluetooth Positioning using RSSI and Triangulation Methods
Yapeng Wang (MPI-QMUL Information System Research Centre, Macao)
Xu Yang (Macau Polytechnic Institute, Macao)
Yutian Zhao (Beijing University of Posts and Telecommunications, China)
Yue Liu, Laurie Cuthbert (Queen Mary, University of London, UK)
SUNDAY PROGRAM
DEMONS • TECHNICAL SESSIONS • KEYNOTE

Sensor Network II
Chair: Yang Xiao (University of Alabama, USA)

A Novel Clustering Paradigm for Key Pre-distribution: Toward a Better Security in Homogenous WSNs
Mohammad Rezaeirad, Mahdi Orooji, Sahar Mazloom, Dimitri Perkins, Magdy Bayoumi (University of Louisiana, USA)

Impact of Antenna Directionality and Energy Harvesting Rate on Neighbor Discovery in EH-IoTs
Shruti Devasenapathy, R Venkatesha Prasad, Vijay Sathyarayana Rao, Ignas Niemegeers (TU Delft, Netherlands)

Selective Context Fusion Utilizing an Integrated RFID-WSN Architecture
Abdulrahman Abahsain, Ashraf E. Al-Fagih, Sharief M.A. Oteafy, Hossam S. Hassanien (Queen’s University, Canada)

Digital Pheromone Based Patrolling Algorithm in Wireless Sensor and Actuator Networks
Yanping Zhang, Yang Xiao (University of Alabama, USA)

Sunday, January 13, 2013 • 15:30 – 16:30
Room: Scenic Room

Demonstrations
See pages 24-26 for demo descriptions.

Intelligent and Emotion-oriented Computing
Chair: Young Sang Choi (Samsung, Korea)

Window-based Streaming Video-on-Demand Transmission on BitTorrent-Like Peer-to-Peer Networks
Mario E. Rivero-Angelès (Instituto Politecnico Nacional, Mexico)
Gerardo Rubino (INRIA, France)
Ivan Omar Olguín Torres, Luis Antonio Martínez (UPNIT - IPN, Mexico)

Echo State Queueing Network: A New Reservoir Computing Learning Tool
Sebastián Basterrech, Gerardo Rubino (INRIA, France)

Production Features for Detection of Shouted Speech
Vinay Kumar Mittal, Yegnanarayana B. (International Institute of Information Technology, Hyderabad, India)

A New Posture Monitoring System for Preventing Physical Illness of Smartphone Users
Hosub Lee, Sunjae Lee, Youngsang Choi, Youngwan Seo, Eunsoo Shim (Samsung Electronics, Korea)

Sunday, January 13, 2013 • 16:30 – 18:10
Room: Laughlin I

eHealth & Ambient Assisted Living
Chair: Jonghoon Youn (University of Nebraska, Omaha, USA)

Monitoring for Disease Progression via Mathematical Time-series Modeling
Ha-Young Kim, Hye Jin Kam, Jihyun Lee, Sanghyun Yoo, Kyoung-Gu Woo (SAIT, Samsung Electronics, Korea)
Jai Sung Noh, Seungmin Yoo (Ajou University School of Medicine, Korea)

On-board Processing of Acceleration Data for Real-time Activity Classification
Sangil Choi, Richelle LeMay, Jong-Hoon Youn (University of Nebraska, Omaha, USA)

Real Life Applicable Fall Detection System Based on Wireless Body Area Network
Woon-Sung Baek, Dong-Min Kim, Faisal Bashir, Jae-Young Pyun (Chosun University, Korea)

Sunday, January 13, 2013 • 19:00 – 21:00
Room: Vista Room

Banquet & Keynote Address

Game Changers of Future Consumer Communications

I.P. Park
Executive Vice President & CTO
HARMAN International
See page 23 for abstract.
Vehicular networking serves as one of the most important enabling technologies required to implement a myriad of applications related to vehicles, vehicle traffic, drivers, passengers and pedestrians. Much progress has been achieved in this area during the past decade. In this tutorial, we will look into applications and use cases of vehicular networking followed by an overview of the standardization activities. Next we will cover the communication protocol design as well as the deployment plans. We will also briefly talk about simulation tools for evaluation of various protocol designs. Before concluding, we will take a glimpse at the recently emerging reality of electric vehicles and issues surrounding them. Finally, we will conclude with open issues that require further research.

**Wireless Communication I**

Chair: Jae-Young Pyun (Chosun University, Korea)

BRAEVE: Stable and Adaptive BSM Rate Control over IEEE802.11p Vehicular Networks
Kazumine Ogura, Jiro Katto (Waseda University, Japan)
Mineo Takai (University of California, Los Angeles, Japan)

Coordinator Assisted Passive Discovery for Mobile End Devices in IEEE 802.15.4
Faisal Bashir, Woon-Sung Baek, Pranesh Shhapit, Dinesh Pandey, Jae-Young Pyun (Chosun University, Korea)

Estimation of Overlay Link Quality from Previously Observed Link Qualities
Weihua Sun (Nara Institute of Science and Technology, Japan)
Naoki Shibata (Shiga University, Japan)
Keiichi Yasumoto (Nara Institute of Science and Technology, Japan)
Masaaki Mori (Shiga University, Japan)

Joint Resource Allocation in OFDMA-Based Relay Systems under Mutual Interference Constraint
Solmaz Niknam (Iran University of Science and Technology, Iran)
S. Eman Mahmoudi (Stevens Institute of Technology, USA)
Bahman Abolhassani (Iran University of Science and Technology, Iran)

Performance Impact of Pilot Tone Randomization to Mitigate OFDM Jamming Attacks
Chowdhury Shahriar, Robert McGwier, T. Charles Clancy (Virginia Tech, USA)

Progressive Equalizer Matrix Calculation using QR Decomposition in MIMO-OFDM Systems
Peng Xue, Kitaek Bae, Kyeongyoon Kim, Ho Yang (Samsung Advanced Institute of Technology, Korea)
Monday, January 14, 2013 • 10:00 – 12:00
Room: Reno II
Applications
Chair: Wei Hao (Northern Kentucky University, USA)
A Fuzzy Based Credibility Evaluation of Recommended Trust in Pervasive Computing Environment
Naima Iltaf, Abdul Ghafoor
(National University of Sciences and Technology, Pakistan)
Accelerating E-Commerce Sites in the Cloud
Wei Hao, James Walden, Chris Trenkamp
(Northern Kentucky University, USA)
CCN Networking Architecture for Mobile Applications
Seongik Hong, Myeong-Wuk Jang, Byoung-Joon BJ Lee
(Samsung Advanced Institute of Technology, Korea)
Focused Crawling for Building Web Comment Corpora
Melanie Neunerdt, Blanka Trevisan, Markus Niermann, Rudolf Mathar
(RWTH Aachen University, Germany)
Improved Feature Representation for Robust Facial Action Unit Detection
Sudha Velusamy, Viswanath Gopalakrishnan, Balasubramanian Anand, Pratibha Moogi, Basant Pandey
(Samsung India Software Ops Pvt Ltd, India)
Photo-Realistic 3D Reconstruction of Large-Scale and Arbitrary-Shaped Indoor Environments
Egor Bondarev, Peter H.N. de With, Francisco Heredia, Raphael J.J. Favier, Lingni Ma
(Eindhoven University of Technology, Netherlands)

Monday, January 14, 2013 • 13:00 – 15:00
Room: Reno I
Mobile Device & Application II
Chair: Hosub Lee (Samsung, USA)
Local Selected IP Traffic Offload Reducing Traffic Congestion within the Mobile Core Network
John Cartmell, Bartosz Balazinski, John McNally
(InterDigital Communications Corp, USA)
Localization of An Acoustic Source Using Smart Phones
Yue Wang, Liyang Rui, Wenjia Shi, Dominic K. C. Ho, Yi Shang
(University of Missouri, USA)
PIOs: A Platform-Independent Offloading System for a Mobile Web Environment
Sehoon Park, Qichen Chen, Heon Y. Yeom
(Seoul National University, Korea)
Shim6 Assisted Mobility Scheme
Muhammad Mudassir Feroz, Adan Kiani
(National University of Science and Technology, Pakistan)
Wake IQ: Using a Smartphone to Reduce Sleep Inertia
Michael Van Devender, Yi Shang (University of Missouri, USA)

Monday, January 14, 2013 • 13:00 – 15:30
Room: Reno II
Multimedia Networking
Chair: Wenjun Zeng (University of Missouri, USA)
Delivery System and Receiver for Service-compatible 3DTV Broadcasting
GwangSoon Lee (ETRI, Korea)
FARCREST: Euclidean Steiner Tree-based Cloud Service Latency Prediction System
Boon Ping Lim, Poh Kit Chong, Ettikan Kandasamy Karuppiah, Yaszrina Mohamad Yassin (Mimos Bhd, Malaysia)
Amril Nazir (University College London, UK)
Mohamed Farid Noor Batcha (Mimos Bhd, Malaysia)
Mainstream Media vs. Social Media for Trending Topic Prediction - An Experimental Study
Aleksandre Lobzhanidze, Wenjun Zeng, Paige Gentry, Angelique Taylor (University of Missouri, USA)
Method For Fast Bits Estimation In Rate Distortion For Intra Coding Units In HEVC
Sumit Johar, Manoj Alwani (STMicroelectronics, India)
MPEG Video Streaming Solution for Multihomed-Terminals in Heterogeneous Wireless Networks
Allen Ramaboli, Olabisi Emmanuel Falowo (University of Cape Town, South Africa)
H Anthony Chan (Huawei Technologies, USA)
Multi-Stream Viewer: Simultaneous Viewing System for Streaming Videos with the Time Tag
Kazuki Nakamura, Ryo Tanigawa, Hideki Shimada, Kenya Sato
(Doshisha University, Japan)
TCP Differentiation using Version Identification and EDCA for Low-Delay Multimedia Streaming
Kazuhide Sonoda, Kazumine Ogura, Jiro Katto
(Waseda University, Japan)
Monday, January 14, 2013 • 15:30 – 17:30
Room: Laughlin III

**Wireless Communication III**
Chair: Venkatesha Prasad
(Delft University of Technology, Netherlands)

Analyzing IEEE 802.15.3c Protocol in Fi-Wi Hybrid Networks
Venkatesha Prasad, Bien Quang, Kishor Chandra
(TU Delft, Netherlands)
Xueli An (Bell Labs, Alcatel-Lucent, Belgium)
Huong Nguyen (Hanoi University of Technology, Vietnam)

Enhanced Leakage-Based Precoding Schemes for Multiuser MIMO Downlink
Jin Jin, Lihua Li, Yue Ma
(Beijing University of Posts and Telecommunications, China)

Load Balancing Performance of Dynamic SCell Measurement Period Relaxing in LTE-A
Xiaoyu Duan
(Beijing University of Posts and Telecommunications, China)

Precoding Optimization for Interference Cancellation in Multiuser Relay Networks for LTE-Advanced
Saransh Malik (Chonnam National University, Korea)

Smart Switch: Optimize for Green Cellular Networks
Qilin Fan, Xiaohu Chen, Hao Yin (Tsinghua University, China)
Ran Liu (Huazhong University of Science and Technology, China)

Study of Clear Channel Assessment Mechanism for ZigBee Packet Transmission under Wi-Fi Interference
Yong Tang, Zhizeng Wang, Tianyu Du, Dimitrios Makrakis, Hussein Mouftah (University of Ottawa, Canada)

Monday, January 14, 2013 • 15:30 – 17:30
Room: Reno I

**Sensor Networks**
Chair: Sang Joon Kim (Samsung, Korea)

An Event-Driven Clustering-Based Technique for Data Monitoring in Wireless Sensor Networks
Attapol Adulyasas, Zhili Sun, Ning Wang (University of Surrey, UK)

An Implementation Study of Relay Selection Schemes for Energy Harvesting WSNs
T V Prabhakar (IIISc, India)
R Venkatesha Prasad (TU Delft, Netherlands)
Akshay Uttama Nambi, Madhuri Iyer (Indian Institute of Science, India)
Ignas G.M.M. Niemegeers (TU Delft, Netherlands)
Jamadagni (Indian Institute of Science, India)

Energy Relaying in Mobile Wireless Sensor Networks
Seung Keun Yoon, Sang Joon Kim, Uikun Kwon
(Samsung Electronics, Korea)

Improving Energy Efficiency of Data Communication in a Hybrid PKI-based Approach for WSNs
Omar Alfandi, Arne Bochem, Ansgar Kellner, Dieter Hogrefe
(University of Goettingen, Germany)

Performance Analysis of a Handover Mechanism for a Mobile Wireless Sensor Network
Qian Dong, Wartenegus Dargie
(Technische Universität Dresden, Germany)

Using SOMs and CoAP-RELOAD to Enable Autonomous Wide Area Sensor Networks
Jouni Mäenpää (Ericsson, Finland)
Vision of Wireless Consumer Communications

The wireless communication needs of the Consumer has produced a Wireless Communications Revolution, which does far more than provide a means of talking or of text messaging. We are today setting the stage for Wireless Cities.

The Wireless City is one in which people use One Phone, a hand-held computer, which permits you to talk, receive your email, download a book, watch a movie or TV, or listen to music, in real time. This device comes equipped with an expandable screen and provides 3D imaging, without glasses. Further, for your safety and convenience, a built-in GPS system enables others to locate you or allow you to plan your route. Other applications include shopping using an application containing a computerized replica of the user, sometimes called an avatar, that models the user’s proposed clothing purchase to the person’s actual body shape, from any store in an electronic shopping mall. In addition, home security cameras connect to the One Phone if there is a “break in,” to show real time images of what is occurring and notify law enforcement.

The Wireless City also includes automobiles equipped with a wireless vehicular collision avoidance system, and an “automatic pilot,” so that you can perform other tasks while the vehicle carries you to your intended destination. It also includes the ‘wireless post office,’ which can operate efficiently - and at a profit!

The key, to make this happen is, Multiple Access technology using MIMO, to permit multiple signals from multiple users to share a limited bandwidth.

This talk features some of the technical issues surrounding the above ideas, which includes the use of small cells, such as mesh networks and femto-cells, and the evolving Standards, and Patents.

These topics show the major role played, and that will be played, by ComSoc, as we proceed with this Wireless Revolution.

Biography: Dr. Schilling received his undergraduate degree in Electrical Engineering from the City College of New York in 1956, his M.S.E.E. from Columbia University in 1958, and his doctorate from the Polytechnic Institute of Brooklyn in 1962. He was a Professor of Electrical Engineering at both the Polytechnic Institute of Brooklyn, and the City College of New York, where he held the Position of Herbert Kayser Distinguished Professor. He retired from CCNY in 1992.

Professor Schilling has held a variety of private-sector positions to develop commercial applications of spread-spectrum technology, including CEO of InterDigital Communications Corporation (1992-1994). He is currently Chairman of LINEX Technologies.

From 1996-98, Dr Schilling headed the TIA 46.1 Standards Committee, WIMS, which joined with ETSI and ARIB to form the 3GPP Wideband CDMA Standard. Dr. Schilling has authored or co-authored twelve textbooks, over 200 technical papers, and holds more than 120 patents. He has been very active in the IEEE and the IEEE Communications Society. He helped start the IEEE Communications Society Magazine, the IEEE Journal on Selected Areas in Communications (JSAC), MILCOM, and INFOCOM. He served as Editor of the Transactions on Communications and Director of Publications from1968-1978. He was President of the IEEE Communications Society from 1980-1981 and was a member of the IEEE Board of Directors from 1982-1983. Among his honors, he is a Life Fellow of the IEEE and has received the Donald W. McLellan Meritorious Service Award in 1978, the Edwin Howard Armstrong Achievement Award in 1998, MILCOM’s Technical Achievement Award in 2000, and has served as a member of the US Army Science Advisory Board.
Smart Life with Convergence

Over several years, Samsung Electronics has been leading the CE/IT device market with various devices. These have been achieved by the wide spectrum of products including smart phone and smart TV as well as the technical leadership.

Nowadays, because the concept of product has been changed from the single device itself to the window for giving user experience, if the device can’t give the integrated user experience to users, it can’t be a market leading product. Therefore, in order to lead the market, device manufactures must find the way to give more differentiated experience to users rather than any other companies. One of the solutions is the convergence - how previously separate networks, devices, and services can converge to offer new, exciting services.

This keynote will broadly explore the IT mega trends around CE/IT device manufactures for the convergence - Cloud/Big Data/Device Convergence - and why these trends are important to device manufactures. Throughout the keynote, the audience will be able to obtain the insight to the CE market, which technologies should be developed in each trend for the device manufacturers as to give an integrated experience to users - Smart Life.

Biography: Dr. Eo received his Bachelor’s degree in Electronics Engineering from the Seoul National University in 1982, Master’s degree in 1984 and Ph.D. degree in 1989 in Electrical Engineering from KAIST. His Ph.D. major was computer graphics including ray tracing, hardware acceleration engine for rasterization based on parallel processing, and object modeling.

He joined Samsung Electronics in 1989. Since then, he has developed various technologies and solutions for virtual reality, audio/video codec, DTV middleware, application, etc. He was given the Industry Prize from the Ministry of Knowledge Economy in Korean Government for his contribution to the embedded software industry in 2010.

Now, he is Executive Vice President of Samsung Electronics and vice chairman of Korea Embedded Software Industry Council. In Samsung Electronics, he is leading Convergence Solution Team in Samsung Software R&D Center, which focuses on the research and development of the convergence solutions such as Allshare™, cloud, big data, smart home and security. And also he is leading User Experience Center in Samsung DMC R&D Center, where they are discovering user values and scenarios for new services and designing the identity of Samsung products and services. He is looking for the opportunities of combining the products with services, so he is interested in the areas such as cloud server/services, data analytics, web-centric solution, convergence platform and ecosystem. He expects that all these technologies will be applied to our daily lives not only with CE devices but also with future cars and health care devices.
SDN in Windows Azure Cloud

Software Defined Networking (SDN) is a much hyped term without clear definition or agreement on scope or meaning. In this talk, we present the "real world" problems in networks in a large cloud like Windows Azure. We then describe how software is being used in Windows Azure to solve these problems. By software control of the physical network hardware, one can achieve reliability and scale of operations for a large public cloud. We describe an approach to software control of the physical network. In addition, by delivering virtualized networks and network functions like load balancing realized and managed in software, one can achieve the needs for multi-tenancy and virtualization in the cloud.

Biography: Albert Greenberg is the Partner Development Manager at Microsoft, where he leads design and development of cloud networking services and technologies at Windows Azure, for both logical and physical data center networking. Albert joined Microsoft Research in 2007, where he worked on data center networks, cloud service infrastructure, enterprise network management, and monitoring. Albert joined Microsoft after many years at Bell Labs and AT&T Labs Research, where he was an Executive Director and AT&T Fellow, and where he helped build the systems and tools for engineering and managing AT&T’s networks. Albert is an ACM Fellow.
Sunday, January 13, 2013
Banquet & Keynote Address
19:00 – 21:00 • Room: Vista Room

I.P. Park
Executive Vice President & CTO
HARMAN International

Game Changers of Future Consumer Communications

Many of us can still remember the era of mainframe computers, and how they quietly succumbed to compact desktop devices that exponentially multiplied processing power and users. Today, we are in the middle of a far more dramatic shift of the IT & Communications technology (ICT) paradigm thanks to mobile devices, apps and the cloud.

HARMAN is a manufacturer of a wide range of audio and infotainment products for the automotive, consumer and professional markets. With the current transformation of the ICT paradigm, technology companies like HARMAN are faced with new challenges and greater opportunities.

In this talk, I will discuss some key takeaways from this newly emerging platform of mobile universe. They can be summarized into three defining categories – big data, smart connectivity and “future” user experience, which are poised to be major game changers of our industry.

Biography: As CTO, Dr. I.P. Park leads the company-wide technology strategy and is responsible for overseeing all R&D activities, which are mostly in the areas of automotive infotainment, consumer and professional audio systems. As a member of HARMAN’s Executive Committee, he leads advanced research projects to bring innovative thought leadership into HARMAN products. I.P. joined HARMAN in February, 2012.

Prior to HARMAN, I.P. was Vice President of Intelligent Computing Laboratory (previously under different names such as Computer Science Lab, Software Lab) at Samsung Electronics from 2006 to 2011. He headed advanced software R&D teams to develop Samsung’s future software technologies, provided leadership in core software research, standardization and open source strategy. He founded STAR Center, a joint research lab with Georgia Tech. and CIC (Center for Intelligent Computing) with Seoul National University.

Prior to Samsung, I.P. was Department Head of Security and Platform Technologies at Panasonic Princeton Laboratory. He led projects in areas of operating system platforms, embedded Linux systems, and secure download for software-defined radio. He was instrumental in establishing the Consumer Electronics Linux Forum (CELF) and served as founding chair of the Architecture Group. Under his leadership, the CELF 1.0 standard specification and CELF 1.0 source tree was published, establishing CELF as a global leader for Linux CE adaptation and enhancements.

I.P. has also held senior roles at Timecruiser Computing Corporation, an Internet software company specializing in building Java-based enterprise systems, and was a faculty member at New York Institute of Technology (NYIT). He has also been a visiting researcher at Bellcore.

Dr. Park received a B.S. in Computer Science from Seoul National University, and a M.S. and Ph.D. in Computer Science from Columbia University.
WeatherPlay
Authors: Arlene Ducao, Yuzhao Ni, Henry Holtzman, Robert Hemsley (MIT, USA)

In this paper, we examine the implementation and usage scenarios for WeatherPlay, a web site that collects weather and travel TV clips, microblog entries, amateur videos, and outdoor data. In order to present a comprehensive picture of people’s outdoor experiences, WeatherPlay geo-locates this media and places it in both a map and video gallery context.

LLCPS: A New Security Framework Based on TLS For NFC P2P Applications in the Internet of Things
Authors: Pascal Urien (Télécom ParisTech, France)

The NFC (Near Field Communication) is a promising emerging technology for the Internet of Things (IoT). It enables short range communications (a few centimeters) with modest throughputs (a few hundred Kbit/s) and low power consumption (a few mW). Although this technology is deployed for payment, access control, or data transfer applications, it is not today secure. This demonstration presents the first implementation of the TLS protocol for NFC P2P mode, according to a new framework, named LLCPS described by an IETF draft. LLCPS should enable a wide range of secure services for the IoT.

Prototype for Design-time Secure and Trustworthy Service Composition
Authors: Bo Zhou, David Llewellyn-Jones, Qi Shi, Muhammad Asim, Madjid Merabti (Liverpool John Moores University, UK)

Service-oriented environments provide the opportunity for services from different providers to work together, forming new composite services via composition of existing services. However, in addition to the intended outcomes, composition also introduces the potential for unexpected or emergent behaviour, resulting in new uncertainties, especially in the area of security. Funded by the European FP7 programme, our research focuses on providing a service composition platform that is secure and trustworthy. We will demonstrate the design-time prototype that show how to create service compositions, verify them against security policies and make sensible recommendations based on a user’s security preferences.

EVANS3: Home Appliance Control System with Appliance Authentication Framework Using Augmented Reality Technology
Authors: Shinya Mihara, Kohei Kawai, Hideki Shimada, Kenya Sato (Doshisha University, Japan)

The popularity of network home appliances increases. However, operation of such devices are complex, and are difficult for users to identify the network home appliance’s location in any altering light environments. We propose an EVANS3 system, which is an LED Marker installed framework of the EVANS2. By dynamically operating the LED Marker, we achieve a comfortable and effective appliance authentication environment for a suitable user’s operating conditions, and allow us to actually control the real home appliance through the AR interface.

Prototypes of Opportunistic Wireless Sensor Networks Supporting Indoor Air Quality Monitoring
Authors: Petros Spachos, Liang Song, Dimitrios Hatzinakos (University of Toronto, Canada)

In this demonstration proposal, we describe a prototype of a Wireless Sensor Network (WSN) for monitoring the air quality of an arbitrary indoor infrastructure environment. Specifically, the proposed demonstration deals with an application of wireless mesh networks for monitoring the carbon dioxide levels of an indoor environment, supporting guaranteed real-time data acquisition and display. In the proposed demonstration we will illustrate a number of advantages of opportunistic routing, including dynamic node deployment and dynamic routing path selection, opportunistic resource utilization, robustness to interference and guaranteed multi-hop QoS (Quality of Service) for an indoor gas concentration monitoring network.

TrafficCam: Sharing Traffic Information based on Dynamic IPv6 Multicast Group Assignment using Smartphone Sensors
Authors: Yohei Kanemaru, Satoru Noguchi, Atsuo Inomata, Kazutoshi Fujikawa (Nara Institute of Science and Technology, Japan)

Exchanging traffic information among nearby vehicles is one of communication scenarios in the field of intelligent transport systems (ITS). An important question in this scenario is “How to deliver traffic information only to a subset of nearby vehicles in an identical road traffic event?”, e.g., traffic congestion in a certain lane. In this paper, we propose a dynamic IPv6 multicast group assignment mechanism using GPS, accelerometer and magnetometer embedded in smartphones. Our mechanism enables each node to determine a relevant vehicle, and to compose a temporary IPv6 multicast address. Our mechanism can deliver traffic information to a group of vehicles sharing a particular situation. This demonstration shows a pseudo-traffic congestion detection scenario using a prototype of the proposed mechanism, implemented as an Android application called TrafficCam. Our application demonstrates the validity of the proposed mechanism.

GEMS: SMS-based App Store for Growth Economies
Authors: Daniel Risi, Mauro Ricardo da S Teófilo, Thomaz Silva (Nokia Institute of Technology, Brazil)

Mobile applications have become one of the main pillars in the current mobile industry ecosystems. But regardless of their unquestionable popularity in the smartphone domain, a great challenge is still to be faced in the feature phone arena: data connection is far from ubiquitous among that segment. Besides the prohibitive cost of mobile Internet plans for many users, especially in developing
countries, a large portion of the bottom-tier phones simply does not offer that feature yet. GEEMS is an end-to-end solution that addresses this issue by enabling short messages - a quasi-omnipresent service in all user segments and markets - to act as that transport. By offering a client environment that mounts applications based on a set of predefined UI components, it can make relatively complex applications fit into a small number of concatenated SMS, thus making a strong and practical app store statement for the long tail.

Application Defined Computing in Smartphones and Consumer Electronics
Authors: Arun Jagatheesan, Zheng Li (Samsung R&D Center, USA)

Smartphones to enterprise servers, computing systems are built with generic and commodity components, such as flash (NAND) storage, memory, etc. Although such generalization of commodity components reduces the cost of the product, generic components result in severe inefficiency in terms of energy and performance. We introduce Application Defined Computing (ADC) to specialize generic hardware based on runtime application characteristics. Our demonstration prototype and experimental results show that brokering just a couple of parameters in DRAM (memory) systems could improve Energy Delay Product by 23% and performance by 17% for smartphones. Our approach could be used in most consumer electronics products with diverse application workloads.

FARCREST: Euclidean Steiner Tree-based Cloud Service Latency Prediction System
Authors: Boon Ping Lim, Poh Kit Chong, Ettikan Kandasamy Karuppiah, Yasrina Mohamad Yassin (Mimos Bhd, Malaysia)
Amril Nazir (University College London, UK)
Mohamed Farid Noor Batcha (Mimos Bhd, Malaysia)

Cloud resource provisioning is crucial to assure timely deliverable of delay-sensitive cloud services. Today, virtual machine reservations are done mainly based on cloud resource availability. Often, maximum VM resources are preserved to assure service response time, resulting in a waste of resources. Existing state-of-the-arts measure cloud response time by deploying target applications on cloud infrastructure. Such methods incur high overhead and useless for real-time performance measurement for delay-sensitive application. In this demo, we present a light-weight realtime service latency prediction mechanism based on Euclidean Steiner Tree model for optimum VM resource allocation in delay-sensitive cloud services. Our aim is to derive a highly accurate service latency prediction mechanism reflecting timely information of the actual cloud resources conditions, while imposing minimum overheads to the cloud service. We present a fast response cloud resource estimation system - FARCREST which integrates the prediction model with cloud front-end server for VM services latency prediction.

SDNAN: Software-Defined Networking in Ad Hoc Networks of Smartphones
Authors: Paul Baskett, Yi Shang, Wenjun Zeng (University of Missouri, USA)
Brandon Guttersohn (Southeast Missouri State University, USA)

In this paper, SDNAN, a first attempt to implement software-defined networking (SDN) over a wireless ad hoc network of smartphones, is presented. Its modular ad hoc network management structure can be easily modified and extended. Its abstractions and interfaces allow components to communicate without knowing how other components work. Third-party applications can use the interfaces to access the ad hoc network, significantly reducing development time and program complexity. A prototype system has been implemented on Android smartphones over Wi-Fi and achieved good preliminary results.
In this demo, we will present Gossipmule, a decentralized approach to improve WiFi association performance of stations in IEEE 802.11 WLANs. Our approach empowers stations to exchange information regarding the access points’s capabilities and performance with other stations, in order to improve association decisions and speed up handoff sessions.

The ability to link two physical smart spaces in real-time, and apply the knowledge acquired from designing and managing the small densely instrumented space to the larger and less densely monitored space opens up a whole host of possibilities in terms of how architects and engineers approach building design, building environment modeling, energy resource optimization, and building control. We leverage and extend the EcoSense framework to link smart spaces. This provides the ability to ‘scale’ environmental profiles derived from optimized instrumented space to the larger and less densely monitored space.

We describe a mobile application for sharing user authored photo content in real-time called CoCam. CoCam is a collaborative content sharing framework based on opportunistic P2P proximal networking. CoCam users who are located in the same physical space can automatically share the photos they create as well as receive photos from other users around them. Since CoCam is based on an opportunistic P2P network middleware, users are not required to know each other in advance. It is also not necessary for them to agree on the same service provider nor coordinate the network configuration, infrastructure and security settings. This middleware automatically discovers other peers and handles the organization of ad-hoc network connections. With CoCam, we demonstrate that users are able to share and enjoy shared photos and video streams without the effort of manual setup and cost associated with the 3G/4G network.

Towards A System for Body-Area Sensing and Detection of Alcohol Craving and Mood Dysregulation
Authors: Paul Baskett, Yi Shang (University of Missouri, USA)
Michael Patterson (Gustavus Adolphus College, USA)
Timothy Trull (University of Missouri, USA)

Current methods in clinical psychology primarily rely on questionnaires and interviews with examiners. This paper presents preliminary work towards a smartphone-based wireless body area sensing system that will be used to improve current methods and provide real-time interventions if necessary. This system consists of several wearable sensors for measuring physiological data, a smartphone, and a web server. The smartphone is the centerpiece, responsible for collecting sensor data, interacting with the user, performing real-time computation, and communicating with the web server. The system collects physiological data, self-reported emotional and behavioral state, and other user-context data such as GPS location or ambient audio recording.

CoCam: Real-time Photo Sharing Based on Opportunistic P2P Networking
Authors: Eyal Toledano, Dan Sawada, Andrew Lippman, Henry Holtzman, Federico Casalegno (MIT, USA)

We describe a mobile application for sharing user authored photo content in real-time called CoCam. CoCam is a collaborative content sharing framework based on opportunistic P2P proximal networking. CoCam users who are located in the same physical space can automatically share the photos they create as well as receive photos from other users around them. Since CoCam is based on an opportunistic P2P network middleware, users are not required to know each other in advance. It is also not necessary for them to agree on the same service provider nor coordinate the network configuration, infrastructure and security settings. This middleware automatically discovers other peers and handles the organization of ad-hoc network connections. With CoCam, we demonstrate that users are able to share and enjoy shared photos and video streams without the effort of manual setup and cost associated with the 3G/4G network.

A Peer-to-Peer Microblogging Service Based on IP Multicast and Social Virtual Private Networking
Authors: Pierre T. St. Juste, Renato Figueiredo (University of Florida, USA)

Microblogging services such as Twitter or Idenca have become an indispensable communication tool on the Internet. Dubbed social media by some, these services allow people to share ideas, news, and even coordinate social and political revolutions. However, due to their centralized nature, microblogging services have been susceptible to blocking by governments and powerful groups. To address this issue, we present a peer-to-peer microblogging service that is resistant to government intrusions and censorship. The strength of our design lies in the fact that we leverage trusted, peer-to-peer connections for the dissemination of information. Our proposed design consists mainly of two key components: a microblogging service which uses UDP and IP multicasting to push and pull updates, and a peer-to-peer VPN (SocialVPN) which enable IP multicasting over the Internet and provide direct IP connectivity among social peers. We also implemented and deployed a prototype to show the feasibility of our approach.

Improving Associations in IEEE 802.11 WLANs
Authors: Mónica Alejandra Lora, Alexander Paulus, Klaus Wehrle (RWTH Aachen University, Germany)

In this demo, we will present Gossipmule, a decentralized approach to improve WiFi association performance of stations in IEEE 802.11 WLANs. Our approach empowers stations to exchange information regarding the access points’s capabilities and performance with other stations, in order to improve association decisions and speed up handoff sessions.

The ability to link two physical smart spaces in real-time, and apply the knowledge acquired from designing and managing the small densely instrumented space to the larger and less densely monitored space opens up a whole host of possibilities in terms of how architects and engineers approach building design, building environment modeling, energy resource optimization, and building control. We leverage and extend the EcoSense framework to link smart spaces. This provides the ability to ‘scale’ environmental profiles derived from optimized instrumented space to the larger and less densely monitored space.

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Mobility - Rethinking Productivity in the Enterprise
Author: Long Nguyen (Composite Apps, USA)

Mobility is revolutionizing how we live, play and now, how we work. It opens up a whole world of possibilities and markets for companies and its employees. It enables new and innovative ways to work, nurture creativity, capture ideas and deliver to customers at any time, in any place. It can create entire markets and breaks down barriers like never before. Companies have been slow to embrace this new platform. Most attempts have resulted in miniature versions of the existing office desktop environment with some nice gestures and features, but they fall short of achieving the goals of true mobility. At Composite Apps, we believe that mobility goes beyond recreating the current office paradigm; that companies need to rethink solutions from the ground up to tailor their services for the truly mobile workforce.
Friday, January 11, 2013

18:30 – 20:00 • Scenic Room
Opening Reception

Saturday, January 12, 2013

09:00 – 09:30 • Vista Foyer
Networking Coffee Break

11:30 – 12:30 • Vista Room
Luncheon

12:30 – 13:30 • Scenic Room
Demonstrations

15:30 – 16:00 • Scenic Room
Networking Coffee Break

19:00 – 20:00 • Scenic Room
Happy Hour Demonstrations

Sunday, January 13, 2013

09:30 – 10:00 • Vista Foyer
Networking Coffee Break

12:00 – 13:00 • Vista Room
Luncheon

13:00 – 14:00 • Scenic Room
Demonstrations

15:30 – 16:30 • Scenic Room
Demonstrations

16:00 – 16:30 • Scenic Room
Networking Coffee Break

19:00 – 21:00 • Vista Room
Banquet and Keynote Address
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Diamond

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Headquartered in Stamford, Connecticut, HARMAN (NYSE: HAR) designs, manufactures and markets a wide range of audio and infotainment solutions for the automotive, consumer and professional markets — supported by 15 leading brands, including AKG, Harman Kardon, Infinity, JBL, Lexicon and Mark Levinson. The company is admired by audiophiles across multiple generations and supports leading professional entertainers and the venues where they perform. More than 25 million automobiles on the road today are equipped with HARMAN audio and infotainment systems. HARMAN has a workforce of about 13,400 people across the Americas, Europe and Asia, and reported sales of $4.4 billion for the fiscal year ended June 30, 2012.

At Microsoft, we’re motivated and inspired every day by how our customers use our software to find creative solutions to business problems, develop breakthrough ideas, and stay connected to what’s most important to them.

We run our business in much the same way, and believe our eight business divisions offer the greatest potential to serve our customers.

We are committed long term to the mission of helping our customers realize their full potential. Just as we constantly update and improve our products, we want to continually evolve our company to be in the best position to accelerate new technologies as they emerge and to better serve our customers.

Demonstrations

TNO is an independent research organisation. Its mission is to connect people and knowledge to create innovations that boost the sustainable competitive strength of industry and organisations, and the well-being of society as a whole. EtherTrust company (sponsor at IEEE CCNC 2013)

EtherTrust is a spin-off from Telecom ParisTech and the University of Paris VI. The company designs innovative and secure cloud architectures, whose trust is enforced by secure elements. EtherTrust platforms use the NFC technology in order to deploy innovative Internet of Things services for payment, access control and ticketing. The Aniketos platform helps maintain trustworthiness and secure behaviour of Future Internet services. It provides tools to developers, service providers and end users for developing, deploying and using services securely in dynamic environments. Aniketos is a collaborative project funded under the EU 7th Research Framework Programme (FP7/2007-2013), grant no 257930.