Message from the General Co-Chairs

It has been a great honor and privilege to serve as the General Co-Chairs of IEEE ICCCN 2012 at Munich, Germany. Since its inception in 1991, ICCCN has been very successful in bringing together a tremendous and rich diversity of authors, researchers and speakers from academia and industry all over the world, to share ideas and latest research outcomes in the wide spectrum of communications and networking areas.

This year, the 21th year of ICCCN, witnesses a great success in Europe. This is the second time ICCCN moves to Europe. The four-day program starts with 9 quality workshops, covering various hot research topics. It follows with 3 keynote talks and 3 plenary panel discussions and many oral paper sessions; in the main conference. In addition, a Best Paper Award will be given at the conference to the authors, which is recommended by the Best Paper Selection Committee.

It is very encouraging that the response to the conference's call for papers has been outstanding, and we expect the attendance will be equally impressive. The success would not have been possible without the extensive contributions from our 1000+ volunteers. We would like to acknowledge the tremendous efforts of Prasant Mohapatra (UC Davis, USA) and Guevara Noubir (Northeastern, USA), the Technical Program Chairs, for making an outstanding technical program. We thank Fan Zhai and Christian Poellabauer, the Workshop General Co-Chairs, Aaron Striegel, Andres Kwasinski, and Erik Oliver Blass, the Publicity Co-Chairs, Chuan Yue, the Student Travel Grant Chair, Kartik Gopalan, Publication Chair, and many technical program track chairs and workshop chairs, along with our TPC members and reviewers, who have been working around the clock to make the whole process very smooth. We thank Georg Carle and Gabi Dreo Rodosek, Vice Chairs, for excellent local arrangement including a generous sponsorship from the City Mayor of Munich for the complimentary reception at the Old City Hall.

We would like to thank our keynote speakers, panel moderators and participants, and authors for helping make ICCCN a great success. We appreciate the generosity of our sponsors: the IEEE, IEEE Communication Society, NSF, and City Mayor of Munich. We also thank Dr. E. K. Park, the Chair of the ICCCN steering committee, for his constant support and guidance all the time.

Krishna Kant and Xiaobo Zhou
ICCCN 2012 General Co-Chairs

Message from the Technical Program Chairs


Welcome to ICCCN 2012!

The ICCCN conference has established itself as a worldwide reference for the dissemination of high-quality research in all aspects of computer communications and networking, and for fostering interaction and exchange of ideas.

ICCCN 2012 was fortunate to attract a high interest among the community, and the main conference received 266 submissions from more than 41 countries in all five continents. The submissions span 11 tracks. The high number of submissions provided an excellent opportunity for a high-quality program, but also called for a demanding and laborious paper evaluation process. The 307 members of the Technical Program Committee worked efficiently and responsibly under tight time constraints to produce a total of 836 reviews that provided the basis for the final paper selection.

The reviewing and selection process led to 82 regular papers and two invited papers for the main conference, resulting in an acceptance rate of 30%. Given the large number of submitted manuscripts and the tight time and space constraints, many strong submissions could not be accepted. To allow the conference participants to benefit from further worthwhile and stimulating research results, 54 papers were accepted for presentation at the workshops co-located with the main conference.

The main program of ICCCN 2012 covers three days and includes streams of up to three parallel sessions. The program is further enriched by three keynote presentations offered by world-renowned researchers in the field, and three plenary panel discussions that address topics in Architecture of the Future Internet, Privacy and Big Data, and Cognitive Communications for Disaster Recovery. The main program is complemented by a diverse set of high-quality workshops.

We are grateful to all authors who trusted us with their work; without them there would be no conference. The final result would not have been possible without the dedication and hard work of many colleagues. Special thanks are due to the track chairs, workshop chairs, the members of the Technical Program Committees, the General Chairs, and to all external referees for the quality and depth of the reviews, and their sense of responsibility and responsiveness under very tight deadlines.

Prasant Mohapatra and Guevara Noubir
ICCCN 2012 Technical Program Co-Chairs

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Message from the Workshop General Chairs


Welcome to the ICCCN 2012 Workshops! As an integral part of the conference, the ICCCN workshop program provides international forums for scientists and engineers to exchange and share their experiences, research results, and new ideas on hot and emerging topics on computer communications and networks. This year we enjoyed the great privilege to have worked with researchers across the world in organizing nine workshops covering a variety of topics in the area of computer communications and networks. These workshops are:

- ContextQoS – Context-Aware QoS Provisioning and Management for Emerging Networks, Applications and Services
- PMECT – Performance Modeling and Evaluation of Computer and Telecommunication Networks
- WiMAN – Wireless Mesh and Ad Hoc Networks
- MCC – Multimedia Computing and Communications
- coHetNet – Cooperative Heterogeneous Networks
- MobiPST – Privacy, Security and Trust in Mobile and Wireless Systems
- NIME – Networking Issues in Multimedia Entertainment
- SecloT – Security of the Internet of Things
- SN – Sensor Networks

We would like to thank all the workshop organizers for their leadership and hard work in putting together these excellent workshops. Organizing a workshop is a great contribution to the research community and it requires tremendous efforts. We want to thank all workshop committee members and external reviewers for the time dedicated to reviewing the submitted papers. We are also grateful to all authors for submitting their work to these workshops. Many thanks are due to ICCCN General Co-Chairs Prof. Krishna Kant and Prof. Xiaobo Zhou and the ICCCN Program Co-Chairs Prof. Prasant Mohapatra and Prof. Guevara Noubir for their great support and help on numerous aspects of the workshops. Finally, we thank the Steering Committee Chair, Dr. E. K. Park, for his vision and dedication to maintaining ICCCN as a premiere international conference in computer communications and networks.

ICCCN 2012 Workshop Co-Chairs

Fan Zhai, Texas Instruments, USA
Christian Poellabauer, University of Notre Dame, USA

Message from WiMAN'12 Workshop Chair

Welcome to the Sixth IEEE International Workshop on Wireless Mesh and Ad Hoc Networks (WiMAN 2012), which is held in conjunction with the 21st IEEE International Conference on Computer Communications and Networks (IEEE ICCCN 2012), Munich, Germany, July 30, 2012.

The goal of this workshop is to bring together the technologies and researchers who share interest in the area of wireless mesh and ad hoc networks. Its purpose is to promote discussions of research and relevant activities in the design of architectures, protocols, algorithms, services, and applications for wireless mesh and ad hoc networks. Also, this workshop aims at increasing the synergy between academic and industry professionals working in this area.

This international workshop collected research papers on the above research issues from several countries of the world, such as Brazil, Germany, Korea, Poland, Portugal, Spain, Taiwan, The Netherlands, United Kingdom, and USA. Papers collected in this international workshop were rigorously reviewed by the scientific program committee members. According to the review results, the program committee members have selected 12 high quality papers to be presented in this workshop. Authors of the distinguished papers will be invited to submit the extended versions of their papers for a special issue of the Elsevier Journal of Computer and System Sciences (JCSS).

Many people have kindly helped us to prepare and organize WiMAN'12 workshop. First of all, we would like to thank the WiMAN'12 Organization and Technical Program Committee for their support, constructive feedback, and timely reviews. We would like to greatly appreciate the support we got from the IEEE ICCCN 2012 Workshop General Co-Chairs, Dr. Fan Zhai, Texas Instruments, USA, and Prof. Christian Poellabauer, University of Notre Dame, USA. Moreover, we are very thankful to the outstanding support we received from the Steering Committee members, Prof. Christian Poellabauer, University of Notre Dame, USA, and Prof. Liqiang Zhang, Indiana University South Bend. Finally, we also would like to take opportunity to thank all external reviewers and contributing authors for producing high quality papers to be presented at WiMAN'12.

WiMAN'12 Workshop Chair

Habib M. Ammari (University of Michigan-Dearborn, USA)

Message from the PMECT'12 Co-chairs

Welcome to the 6th International Workshop on Performance Modelling and Evaluation in Computer and Telecommunication Networks (PMECT 2012) in conjunction with the 21st International Conference on Computer Communications and Networks (ICCCN 2012) on July 30 to August 2, 2012 in Munich, Germany.

The purpose of this workshop is to provide an international forum for researchers and industry practitioners to present their state-of-art research on performance modelling and evaluation studies in all aspects of computer and telecommunication networks and to exchange ideas and explore new avenues of collaborations.

This international workshop collected research papers on the above research issues from Germany, Canada, Norway, China, USA, UK, Japan, Tunisia and Korea. Papers collected in this international workshop were rigorously reviewed by the scientific programme committee members. According to the review results, the program committee members have selected 7 high quality papers to be presented in this workshop.

Many people have kindly helped us to prepare and organize the PMECT workshop. First of all, we would like to thank the ICCCN 2012 organization and technical program committee for their support, constructive feedback, and timely reviews. We would like to greatly appreciate the support we got from the ICCCN 2012 workshop-co-chair, Fan Zhai and Christian Poellabauer. Finally, we also would like to take opportunity to thank all external reviewers and contributing authors for producing high quality papers to be presented at the PMECT 2012.

General Co-Chairs
Dong Kun Noh, Soongsil University, KR
Lin Guan, Loughborough University, UK
Xingang Wang, Coventry University, UK

Message from the MCC'12 Workshop Chairs

Welcome to the 4th International Workshop on Multimedia Computing and Communications that takes place in conjunction with the 21st ICCCN Conference in Munich, Germany. This event is technically co-sponsored by the IEEE and IEEE Communication Society

The explosively growing momentum behind worldwide broadband deployment and the emerging convergence of voice, image, video and data services offer the base for various modern multimedia applications and services such as mobile TV, multimedia messenger and blog, social networking, video conferencing, Internet gaming, interactive TV, IPTV, and multimedia visualization, navigation, management, search and retrieval. The advances of computing and communication over wired and wireless networks and new technologies, ranging from multimedia coding, network infrastructure, content distribution protocols, and quality of service (QoS) management to post-processing and analysis, have stimulated more diversified multimedia applications and services.

Now in its fourth year, the International Workshop series on Multimedia Computing and Communications provides a professional forum for industry and academic researchers from around the world to present their state-of-the-art accomplishments, exchange latest experiences, and explore future directions for multimedia computing and communications. As the scope of multimedia computing and communications is very broad, we focus this year on some selected topics such as image/video processing, 3DTV, Internet HCI, mobile multimedia, and soft-biometrics.

MCC 2012 collected research papers on the above research issues from Korea, Portugal, Taiwan, and Canada. Papers submitted were rigorously reviewed by the scientific program committee members. According to the review results, the program committee members have selected three high quality papers to be presented in this workshop.

We would like to express our appreciation to all the contributors and authors for their submissions to MCC 2012. Special thanks are due to the members of the Technical Program Committee for their invaluable help with the review process. Finally, we would like to acknowledge and greatly appreciate the kind and professional support by the ICCCN 2012 organizers, the ICCCN steering committee and especially the workshop chairs Dr. Fan Zhai (Texas Instruments, Texas, USA) and Dr. Christian Poellabauer (University of Notre Dame, Indiana, USA).

Program Co-Chairs:
Zheng-Jun Zha, National University of Singapore
Meng Wang, Hefei University of Technology, China
Yun(Raymond) Fu, SUNY at Buffalo, USA

Message from the ContextQoS-2012 Co-chairs

Welcome to the Second International Workshop on Context-aware QoS Provisioning and Management for Emerging Networks, Applications and Services (ContextQoS 2012) in conjunction with the 21th International Conference on Computer Communications and Networks (ICCCN-2012) on July 30th to August 2nd, 2012 in Munich, Germany.

The purpose of this workshop is to bring together researchers and industry practitioners to present and discuss novel approaches and solutions as well as recent results in the field of context-aware QoS provisioning and management for emerging networks, applications and services and to exchange ideas and explore new avenues of collaborations.

This workshop collected research papers on the above research issues from several countries. Papers collected in this international workshop were rigorously reviewed by the scientific programme committee members. According to the review results, the program committee members have selected 9 high quality papers to be presented in this workshop.

Many researchers from all over the world have kindly helped us to prepare and organize the ContextQoS workshop. First of all, we would like to thank the ICCCN-2012 organization and technical program committee for their support, constructive feedback, and timely proposal review. We would like to greatly appreciate the support we got from the ICCCN 2012 workshop-co-chairs, Fan Zhai, Texas Instruments, USA and Christian Poellabauer, University of Notre Dame, USA. Finally, we also would like to take opportunity to thank all external reviewers and contributing authors for producing high quality papers to be presented at ContextQoS 2012.

ContextQoS-2012 Workshop Chairs

Prof. Dr.-Ing. Dipl.-Wirtsch.-Ing. York Tüchelmann, Ruhr-University Bochum, Germany
Prof. Dr. Nader F. Mir, San Jose State University, USA
Dr.-Ing. Patrick-Benjamin Bök, Ruhr-University Bochum, Germany

Message from the MobiPST 2012 Co-chairs

Welcome to the Second International Workshop on Privacy, Security and Trust in Mobile and Wireless Systems (MobiPST 2012) in conjunction with The 21th International Conference on Computer Communications and Networks (ICCCN 2012), July 30 to August 2, 2012, Munich, Germany.

This workshop aims to bring together the technologists and researchers who share interest in the area of security, privacy and trust in mobile and wireless systems, as well as explore new venues of collaboration. The main purpose is to promote discussions of research and relevant activities in the models and designs of secure, privacy-preserving, or trust architectures, protocols, algorithms, services, and applications, as well as analysis on cyber threat in mobile and wireless systems. It also aims at increasing the synergy between academic and industry professionals working in this area.

This international workshop collected research papers on the above research issues from many countries including USA, Italy, Czech, Saudi Arabia, Puerto Rico, Canada, Japan, Finland, India. Papers collected in this international workshop were rigorously reviewed by the scientific programme committee members. According to the review results, the program committee members have selected 9 high quality papers to be presented in this workshop. Authors of the distinguished papers will be invited to submit the extended versions of their papers for a special issue of Information - An International Interdisciplinary Journal.

Many people have kindly helped us to prepare and organize the MobiPST workshop. First of all, we would like to thank the ICCCN 2012 organization and technical program committee for their support, constructive feedback, and timely reviews. We would like to greatly appreciate the support we got from the ICCCN 2012 workshop-co-chairs, Dr. Fan Zhai, Texas Instruments, USA, and Prof. Christian Poellabauer, University of Notre Dame, USA. Finally, we also would like to take opportunity to thank all external reviewers and contributing authors for producing high quality papers to be presented at the MobiPST 2012.

MobiPST 2012 Workshop Co-Chairs

Dr. Kewei Sha, Oklahoma City University, USA
Dr. Zhengping Wu, University of Bridgeport, USA
Dr. Yafei Yang, Qualcomm Inc., USA

Message from NIME'12 Workshop Chairs

Welcome to the 8th International Workshop on Networking Issues in Multimedia Entertainment (NIME 2012) that takes place in conjunction with the 21st ICCCN Conference in Munich, Germany. This event is technically co-sponsored by the IEEE and IEEE Communication Society.

The growing availability of digital contents and the simultaneous cost reductions in storage, processing, and networking is driving the growth of the entertainment technology. While in the past entertainment technology traditionally offered predominantly passive experiences, continual advances in network and computer technologies are providing tools for implementing greater interactivity and for enabling consumers to enjoy more exciting experiences, such as, for example, interactive digital TV, interactive theatre and orchestrated music and sound design. This phenomenon is pulling together an extremely diverse group of experts specializing in different technical areas, such as networking, computer graphics, artificial intelligence, games, animation, multimedia design, human-computer interaction, educational media and software engineering. Even though high-tech entertainment promotes interdisciplinary fusion, yet only the ubiquity of wireless/wired communication is considered suitable for accepting the challenge of building a large interactive environment for the delivery of the maximum entertainment value to millions of consumers worldwide. In this respect, there is a great hope that the wired and wireless may take over this complex scenario for fulfilling the consumer expectations.

Now in its eighth year, the International Workshop series on Networking Issues in Multimedia Entertainment provides an open forum for researchers, engineers and academia to exchange the latest technical information and research findings on next-generation networked multimedia concepts, technologies, systems, and applications for entertainment covering existing deployments, current developments and future evolution.

NIME 2012 collected research papers on the above research issues from Canada, China, India, Italy, Korea, Palestine, Spain, Taiwan, UK and USA. Papers submitted were rigorously reviewed by the scientific programme committee members. According to the review results, the program committee members have selected 13 high quality papers to be presented in this workshop.

We would like to express our appreciation to all the contributors and authors for their submissions to NIME 2012. Special thanks are due to the members of the Technical Program Committee and all the external reviewers for their invaluable help with the review process. We would like also acknowledge the contribution and thanks the keynote speaker Professor Alessandro Amoroso from Bologna University in Italy. Finally, we would like to acknowledge and greatly appreciate the kind and professional support by the ICCCN 2012 organizers, the ICCCN steering committee and especially the workshop chairs Dr. Fan Zhai (Texas Instruments, Texas, USA) and Dr. Christian Poellabauer (University of Notre Dame, Indiana, USA).

General Co-Chairs:
Prof. Marco Roccetti, Bologna University, Italy
Prof. Abdennour El Rhalibi, Liverpool John Moores University, UK

Programme Chair:
Prof. Claudio Palazzi, University of Padua, Italy

Message from the SecIoT'12 Co-chairs

Welcome to the 2012 International Workshop on the Security of the Internet of Things (SecIoT 2012), which is held in conjunction with the 21th International Conference on Computer Communications and Networks (ICCCN 2012), July 30 - August 2, 2012, Munich, Germany.

When we first began organizing this workshop, our goal was to provide an environment where researchers and professionals from universities, private companies and public administrations could meet and discuss about the issues surrounding the security of the Internet of Things and its underlying technologies (e.g. wireless networks, RFID).

Although we attracted a low number of submissions, we had an acceptance rate of 50%, and all accepted papers were included in a session of a related workshop, which dealt with the security issues surrounding the underlying elements of the Internet of Things. As a result, our goal was achieved, as security researchers working in similar areas were given the opportunity to exchange ideas and points of view. Therefore, first we would like to thank the people who made this possible: the ICCCN 2012 workshop co-chairs, Dr. Fan Zhai (Texas Instruments, USA) and Dr. Christian Poellabauer (University of Notre Dame, USA), and also the ICCCN 2012 organizers.

Also, our technical program committee did an outstanding job, providing thoughtful reviews before the deadline. In fact, almost all submissions had not just three, but four high quality reviews that surely will improve the quality of the final versions. Therefore, we would like to thanks our program committee members for their professionalism and their invaluable help.

Finally, we would like to thank all authors for submitting their work to our workshop, and also the members of the SecIoT steering committee for providing their expertise in the organization and management of this workshop.

SecIoT 2012 Workshop Co-Chairs

Rodrigo Roman, Institute for Infocomm Research, Singapore
Jim Clarke, Waterford Institute of Technology, Ireland
Stefanos Gritzalis, University of the Aegean, Greece

Message from the coHetNet'12 Co-chairs

Welcome to the Second Workshop on Cooperative Heterogeneous Networks (coHetNet), which is held in conjunction with the IEEE International Conference on Computer Communication Networks (ICCCN 2012), July 30 August 2, 2012, Munich, Germany.

In the past edition, the coHetNet workshop brought together both academic and industrial researchers. The target was to identify and discuss challenges and developments related to the decentralized and distributed cooperation of cellular networks, in order to ensure a proper heterogeneous network operation and to establish future research directions.

The coHetNet 2012 edition has received candidate papers of high scientific rigor and interesting approaches related to the scope of the workshop. The papers' authors belong to well known research centers and universities in Finland, Germany, Portugal, Bangladesh, USA, UK and Norway. Each paper was carefully reviewed by at least three members of the Technical Program Committee. Following the recommendations of the reviewers, nine high quality papers were selected to be part of the workshop technical program. Furthermore, we are pleased to have two outstanding keynote speakers, Ingo Viering from Nomor Research, Germany and Stefan Brueck from Qualcomm, Germany. Also, as part of the workshop we present two demos given by Azcom Technology and TriaGnoSys.

The success in the organization of coHetNet second edition workshop is in large thanks to the unconditional support of many people. First of all, we would like to deeply thank the members of the Technical Program Committee for their availability and prompt reviews. We greatly appreciate the support provided by the ICCCN 2012 workshop co-chairs Dr. Fan Zhai from Texas Instruments, USA and Dr. Christian Poellabauer from University of Notre Dame, USA. Last but not least, we would like to thank the steering committee, specially to Dr. David López-Pérez, Bell Labs, Alcatel-Lucent, Ireland and Dr. Guillaume de la Roche, Mindspeed Technologies, France for their willingness and for giving us the opportunity to participate in the organization of the coHetNet workshop.

coHetNet 2012 Co-Chairs

Dr. Lorenzo Galati Giordano, Azcom Technology srl, Italy
Dr. Mehdi Bennis, University of Oulu, Finland
Dr. Alvaro Valcarce, TriaGnoSys GmbH, Germany
Dr. Ana Galindo-Serrano, CTTC, Spain

Message from the SN 2012 Chairs

Welcome to the 5rd International Workshop on Sensor Networks (SN 2012), which is being held in conjunction with the 21st International Conference on Computer Communication Networks (ICCCN 2012).

Sensor networks have many interesting applications with great utility. They provide continuous inputs from monitoring their surroundings and are viewed by many as basic building blocks to create encompassing systems that bridge cyber and physical worlds. Though having become an exciting area for many years, we believe sensor networks research and development will continue to thrive with unstoppable momentum.

SN 2012 has received many submissions. Every paper received at least three reviews from the technical program committee members. Based on the results of the reviews, the organization committee has finally selected 6 papers to be presented in the workshop and published in the Proceedings of the ICCCN 2012 Workshops. Extensions of selected best papers will be recommended for possible publication in the International Journal of Sensor Networks (IJSNet).

We would like to thank the encouragement, guidance, and help offered by the ICCCN 2012 organizing committee. In particular, we would like to thank ICCCN 2012 Workshops Co-Chairs, Dr. Fan Zhai and Dr. Christian Poellabauer for their kind support and outstanding leadership. Though having a tight schedule, our technical committee members and external reviewers handled and reviewed the papers in a timely manner. We are grateful to their significant contribution. Finally, we would like to thank all the authors who have submitted their fine work and expressed their interests in this workshop. To summarize, we are sincerely appreciative to all who have supported us and contributed to this workshop in one way or the other. The workshop could not be successful without them.

Sincerely,

SN 2012 General Co-Chairs :

David Hung-Chang Du, University of Minnesota, USA

Yang Xiao, University of Alabama, USA

SN 2012 Technical Program Committee Co-chairs:

Hui Chen, Virginia State University, USA

Ming Li, California State University, Fresno, USA

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- Liang Zhou, Nanjing University of Posts and Telecommunications, China

Technical Program Overview

Monday, July 30, 2012 – Workshops

	RM 0101	RM 0131	RM 0201	RM 0231	RM 2101	RM 2131
9:00-10:15	ContextQoS 1: Keynote	NIME 1: Keynote	WiMAN 1: Keynote	CoHetNet 1: Keynote 1		
10:15-10:45	Coffee Break					
10:45-12:15	ContextQoS 2	NIME 2	WiMAN 2	CoHetNet 2	MobiPST 1	PMECT 1
12:15-13:30	Lunch					
13:30-15:30	ContextQoS 3: Talk	NIME 3	WiMAN 3	CoHetNet 3: Keynote 2	MobiPST 2	PMECT 2
15:30-16:00	Coffee Break					
16:00-18:00	ContextQoS 4	NIME 4	WiMAN 4	CoHetNet 4		SN

Tuesday, July 31, 2012 – Main Conference

	RM 0101	RM 0131	RM 0201
8:30-8:50	Opening Remarks		
8:50-10:15	Keynote I: Networks in Emergency Cyber-Physical-Human Systems Speaker: Dr. Erol Gelenbe, Imperial College, London		
10:15-10:45	Coffee Break		
10:45-12:15	Energy Efficiency	Online Social Networks	Ad hoc and Mesh Networks
12:15-13:30	Lunch		
13:30-15:00	Panel Discussion I: Architecting the Future Internet: IETF Evolutionary vs. Academic Clean-Slate Chair: Malathi Veeraraghavan, University of Virginia		
15:00-15:15	Networking Break		
15:15-16:45	Cognitive Radio Networks	Security	Network Caching
15:15-16:45	(RM 0231) Sensor Networks I	(RM 2101) Network Architecture I	(RM 2131) MAC Protocols
18:00-20:30	Conference Reception		

Technical Program Overview

Wednesday August 1st - Main Conference

	RMA	RMB	RMC
8:50-10:15	Keynote II: Security and Privacy in Named-Data Networking Speaker: Dr. Gene Tsudik, University of California/Irvine		
10:15-10:45	Coffee Break		
10:45-12:15	Cellular Networks	Network Architecture II	Network Performance I
12:15-13:30	Lunch		
13:30-15:00	Panel Discussion II: Privacy in the Age of Big Data (Chair: Guevara Noubir, Northeastern University; TBD)		
15:00-15:15	Networking Break		
15:15-16:45	Sensor Networks II	Grid and Cloud Computing	Network Performance II
16:45-17:00	Coffee Break		
17:00-18:30	Wireless LAN	Video and VoIP	
19:00-21:00	Dinner/Banquet/Awards		

Thursday August 2nd - Main Conference

	RMA	RMB	RMC
8:50-10:15	Keynote III: Let's Dash - Dynamic Adaptive Streaming over HTTP Speaker: Dr. Michael Luby, Qualcomm Inc., USA		
10:15-10:45	Coffee Break		
10:45-12:15	High Speed Networks	Network Traffic and Security	
12:15-13:30	Lunch		
13:30-15:00	Panel Discussion III: Cognitive Communications for Disaster Response Chair: Alhussein Abouzeid, RPI		
15:00-15:15	Networking Break		
15:15-16:45	Sensors in Critical Applications	Pervasive Networking	
16:45-17:00	Coffee Break		
17:00-17:15	Concluding Remarks		

Technical Program

Workshops
Monday, July 30

9:00—10:15

ContextQoS 1: Keynote

Room: 0101

Title: "Is QoS-enabled hardware aware of QoS?"

Speaker: Prof. Dr. Bernhard Stütz (University of Applied Sciences, Stralsund, Germany)

Chair: Dr. Patrick-Benjamin Bök (Ruhr-University Bochum, Germany)

Abstract: Running up to hundreds of applications in parallel in a company network leads to a competitive situation regarding the restricted resources of the network, which is required by any of these applications with a varying degree for a certain level of quality for each service (QoS). A lot of concepts and network equipment for companies and service providers exist which allow to offer different levels of QoS in a network for each of these differing services. But network equipment often differs in performance and offered features regarding QoS provisioning. Although the technical specification of equipment of different vendors often look nearly equal, the available combinations of features regarding the availability of QoS features and, furthermore, the real performance of QoS provisioning in computer networks can differ significantly. This keynote will give an overview on these problems and will face up with the question whether QoS-enabled hardware is aware of QoS or not. Based on his broad theoretical and practical experiences from the last decades, the speaker will give input on these questions to make us aware of QoS and what it means to build, select and deploy QoS-enabled devices.

Biosketch: Bio: Bernhard Stütz received his Dr. rer. Nat. (PhD) in Tübingen, Germany. He was a professor for computer communication und computer networks at the University of Applied Sciences of Stralsund (Germany) from 1994 to 2011. In 1998 he was the co-founder of the Steinbeis Transfer Center Network Planning and Evaluation. He is an expert in the field of QoS in convergent computer networks.

NIME 1: Keynote

Room: 0131

Title: "VANET Support to Multimedia and Games: Designing and Running Road Experiments"

Speaker: Professor Alessandro Amoroso (University of Bologna, Italy)

Chair: Prof. Marco Roccetti (University of Bologna, Italy)

Abstract: Vehicular ad hoc networks (VANETs) are an emerging area of communication that offer a wide variety of possible applications, ranging from safety to multimedia and games. In a near future, in fact, we may easily envision safety and gaming applications where the real-time video captured from a vehicle is streamed to all connected ones, within some given range. We can therefore expect that the standardization of inter-vehicular communication protocols will support the emergence of such type of new applications and that multimedia and gaming, putting to good use such technologies, will rapidly grow. However, one of the obstacles to the exploitation of such applications in the context of VANETs is given by the practical impossibility to test those solutions in real life conditions, as a great number of vehicles are required to gather any significant amount of relevant experimental data. Hence, we here present an approach that makes the practicality of field tests come true, applying a novel methodology apt to experiment with multimedia applications and games in vehicular environments, as it can cope with a very limited amount of resources. The results gained by applying this approach represent a solid leapfrog in the study of such systems. We here discuss in detail the experiments that were run on the road with such methodology and the positive implications that such results reveal for the context of VANET-based multimedia and gaming.

Biosketch: Alessandro Amoroso is Associate Professor in computer science at the the University of Bologna. He is member of the Department of Computer Science since 1994, and he got his laurea degree in physics at the same university in 1987. The main research areas of Prof. Amoroso are: mobile devices, multimedia systems, and distributed systems. In the last few years Prof. Amoroso focussed his researches on VANETs. In this scenario he proposed, with some colleagues, a novel and optimal alert system. He participated to several scientific projects of National Research Council (CNR), National Energy Board (ENEA) and University of California at San Diego (UCSD - NSF).

WiMAN 1: Keynote

Room: 0201

Title: "Cloud Enabled Vehicular Networks: Trends, Challenges, and Opportunities"

Speaker: Prof. Jinhua Guo (University of Michigan-Dearborn, USA)

Chair: Habib M. Ammari (University of Michigan-Dearborn, USA)

Abstract: Wireless technologies are rapidly evolving, and this evolution provides opportunities to utilize these technologies in support of advanced vehicle safety applications. In particular, the 4G LTE Mobile Broadband and Dedicated Short Range Communication (DSRC) offer the potential to effectively support vehicle-to-vehicle and vehicle-to-cloud communications. By offering real-time information about current traffic conditions, collision-avoidance assistance, automatic emergency incident notification, or vision enhancement systems, the communication-based vehicle safety technologies will help drivers to make better informed, more coordinated, and more intelligent decisions, increasing the overall safety and efficiency of the transportation system. In this talk, I will first describe the unique characteristics of 4G LTE and DSRC, intelligent vehicle applications enabled by 4G LTE and DSRC, and the challenges and opportunities in future vehicular networks. Then, I will present our current research work on reliable broadcasting, content centric framework for data dissemination, and security and privacy techniques for the Vehicular Networks.

Biosketch: Dr. Jinhua Guo is the director of Vehicular Networking Systems Research Laboratory and an Associate Professor in the Department of Computer and Information at the University of Michigan at Dearborn. He received his Ph.D. in Computer Science from the University of Georgia in 2002. Dr. Guo has worked on a range of important problems in experimental computer systems, spanning distributed systems, high performance computing, mobile computing, vehicular ad hoc networking, security, and privacy. His research has been funded by highly competitive external and internal sources, including NSF, OVPR, Rackham, and CEEP. He was also a recipient of the IEEE/ASEE Frontiers in Education New Faculty Fellow Award and University of Michigan Rackham Faculty Fellow Award.

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coHetNet 1: Keynote 1

Room: 0231

Title: Automation challenges in "Heterogeneous" HetNets

Speaker: Dr. Ingo Viering (Nomor Research, Germany)

Chair: Dr. Lorenzo Galati Giordano (Azcom Technology srl, Italy)

Abstract: Self-organizing-networks (SON) is a well-recognized key issue in heterogeneous networks (HetNets). Talking about millions of small cells it becomes obvious that configuration, healing and optimization of cell/radio parameters needs to be automated to a high degree and – as important – individually for every cell. Advanced radio features, such as enhanced Intercell Interference Coordination (eICIC) and Mobility Load Balancing (MLB) are often simulated in simplified HetNet scenarios with homogeneity inside the macro layer and inside the pico layer. This is necessary to understand the basics of a feature, to define it on a 3GPP level and to compare simulation results. However this also hides the challenge to automatically configure parameters which are optimal for each individual cell (or even each individual cell boundary) which typically faces individual situations in terms of user distribution and movement, cell size and shape, propagation conditions, etc. This heterogeneity even comprises the fact that the base stations may have been supplied by different vendors. With the "homogeneous" versus "heterogeneous" discussion in mind, the presentation will address HetNet challenges of all SON use case, co-existence of SON use cases as well as the multi-vendor issues.

Biosketch: Before founding Nomor Research, Ingo was working for Siemens as a consultant in all air interface related areas. Located directly on the interface between research and reality, he coordinated many collaborations between universities and Siemens. Furthermore, he acted as backoffice for the 3GPP standardization where, among others, he was the driving force for several work item launches. He was also involved in detailed early evaluation of alternative technologies such as Flash-OFDM, WiMAX, LTE and others. He is still consulting Nokia Siemens Networks in research, standardization, as well as strategic matters. Ingo got his Dr.-Ing. from University of Ulm in 2003. During this time, he collaborated with Siemens in particular on Smart Antenna technologies. He spent a research stay with the "Telecommunications Research Center Vienna (FTW)", where he conducted early measurements of the MIMO channel. He graduated 1999 at Darmstadt University of Technology. He has filed around 40 patents and published more than 30 scientific papers. Since 2007 he is Senior Lecturer at Munich University of Technology.

10:45—12:15

ContextQoS 2: Context-aware QoS in Mobile and Enterprise Networking Environments

Room: 0101

Chair: Dr. Patrick-Benjamin Bök (Ruhr-University Bochum, Germany)

Establishing Enterprise Business Context (eBC) for service policy decision in mobile broadband networks

Rebecca Copeland (Core Viewpoint Limited, United Kingdom); Noel Crespi (Institut Télécom, Télécom SudParis, France)

Measuring the Impact of the Mobile Radio Channel on the Energy Efficiency of LTE User Equipments

Bjoern Dusza (TU Dortmund University, Germany); Christoph Ide (TU Dortmund University, Germany); Christian Wietfeld (TU Dortmund University, Germany)

A method for the detection of QoS degradation in UMTS Networks
Pablo Alonso Garcia (University of Oviedo, Spain); Alberto Alvarez (University of Oviedo, Spain); Alonso Alonso (University of Valladolid, Spain); Belen Carro (University of Valladolid, Spain); Javier Aguiar (University of Valladolid, Spain); Antonio Sánchez (Universidad de Valladolid, Spain)

Energy-efficient Handoff Decision Algorithms for CSH-MU Mobility Solution
Andréa Thang Tran (TU Dortmund University, Germany); Maike Kuhnert (TU Dortmund University, Germany); Christian Wietfeld (TU Dortmund University, Germany)

NIME 2: Multimedia Networking I

Room: 0131
Chair: Prof. A. El Rhalibi (Liverpool John Moores University, UK)

Mercator Atlas Robot: Bridging the Gap between Ancient Maps and Modern Travelers with Gestural Mixed Reality
Gustavo Marfia (Università di Bologna, Italy); Marco Roccetti (University of Bologna, Italy); Angelo Varni (University of Bologna, USA); Marco Zanichelli (Onde Comunicazione, Italy)

On the Feasibility of Opportunistic Collaborative Mixed Reality Games in a Real Urban Scenario
Dario Maggiorini (University of Milano, Italy); Christian Quadri (University of Milano, Italy); Laura Anna Ripamonti (University of Milano, Italy)

A Serious Game for Predicting the Risk of Developing Dyslexia in Preschool Children
Ombretta Gaggi (University of Padua, Italy); Giorgia Galiazzo (University of Padua, Italy); Claudio E. Palazzi (University of Padua, Italy); Andrea Facoetti (University of Padua, Italy); Sandro Franceschini (University of Padua, Italy)

xTrack: A Flexible Real-time 3D Scanner for Home Computing Applications
Matteo Cocon (University of Bologna, Italy); Gustavo Marfia (Università di Bologna, Italy); Marco Roccetti (University of Bologna, Italy)

WiMAN 2: Vehicular and Wireless Back-Haul Networks

Room: 0201
Chair: Jinhua Guo (University of Michigan-Dearborn, USA)

Hybrid Wireless Harness for Low Mass Vehicular Applications
Kiumi Akingbehin (University of Michigan-Dearborn, USA)

Towards an Energy Management Framework for Carrier-grade Wireless Back-Haul Networks
Christian Niephaus (Fraunhofer FOKUS, Germany); Mathias Kretschmer (Fraunhofer FOKUS, Germany)

A Wireless Back-haul Architecture Supporting Dynamic Broadcast and White Space Coexistence
Mathias Kretschmer (Fraunhofer FOKUS, Germany); Christian Niephaus (Fraunhofer FOKUS, Germany); Gheorghita Ghinea (Brunel University, United Kingdom)

coHetNet 2: Energy efficiency and cooperative small cells

Room: 0231
Chair: Dr. Alvaro Valcarce (TriaGnoSys GmbH, Germany)

Dynamic Protected-Subframe Density Configuration in LTE Heterogeneous Networks
Mohammed Al-Rawi, Jörg Huschke (Ericsson, Finland), Magued Sedra (Ericsson, Germany)

Iterative Frequency-Domain Receivers for the Uplink of Cellular Systems with Base Station Cooperation
Filipe Casal Ribeiro (ISCTE-IUL, Portugal), Rui Dinis (Instituto de Telecomunicações/UNINOVA/FCT-UNL, Portugal), Francisco Cercas (ISCTE-IUL, Portugal), Adão Silva (Instituto de Telecomunicações/UNINOVA/FCT-UNL, Portugal)

Energy-Efficient Cooperative Opportunistic Positioning for Heterogeneous Mobile Devices
Kaustubh Dhondge, Hyungbae Park, Baek-Young Choi (University of Missouri, USA), Sejun Song (Texas A&M University, USA)

MobiPST 1: Wireless and Networking Security I

Room: 2101

Chair: Alfred C. Weaver (University of Virginia, USA)

Rethinking Stream Ciphers: can extracting be better than expanding?
Angelo Coluccia (University of Salento, Italy)

Efficient Quasigroup Block Cipher for Sensor Networks
Matthew Battey (University of Nebraska at Omaha, USA); Abhishek Parakh (University of Nebraska at Omaha, USA)

RBS: Redundant Bit Security algorithm for RFID systems
Zahra Jeddi (University of Louisiana at Lafayette, USA); Esmaeil Amini (University of Louisiana at Lafayette, USA); Magdy Bayoumi (University of Louisiana, USA)

e-Healthcare Security Solution Framework
Wei Liu (Georgia Gwinnett College, USA); Ek Park (CSU-Chico, USA)

PMECT 1: Performance on System and Service

Room: 2131
Chair: Werner Sandmann (Clausthal University of Technology)

Effects of Dynamic Cloud Cluster Load on Differentiated Service Availability
Ameen Chilwan (Norwegian University of Science and Technology (NTNU), Norway); Astrid Undheim (Telenor Corporate Development, Norway); Poul E. Heegaard (Norwegian University of Science and Technology, Norway)

High Speed Traffic Archiving System for Flow Granularity Storage and Querying
Zhen Chen (Tsinghua University, P.R. China); Shi Xi (Tsinghua University, P.R. China); Lingyun Ruan (Tsinghua University, P.R. China); Feng Xie (Tsinghua University, P.R. China); Jun Li (Tsinghua University, P.R. China)

Performance Analysis of Random Resource Allocation for Non-real-time Traffic in IEEE 802.16e under Unsaturated Traffic Condition
Eunju Hwang (Korea University, Korea)

13:30—15:30

ContextQoS 3: Talk

Room: 0101
Title: "Making enterprise network's QoS mechanisms aware of business processes"
Speaker: Dr. Patrick-Benjamin Bök (Ruhr-University Bochum, Germany)
Chair: Prof. Dr. York Tüchelmann (Ruhr-University Bochum, Germany)

Abstract: The execution of business processes is supported by running many applications within a corporate network. Each business process includes several tasks which have different priorities expressing each task's relevance in helping to achieve the related business objectives. The provisioning of a certain level of QoS according to the requirements of an entire business process can hardly be accomplished using existing QoS provisioning schemes because these do not account for the dynamic requirements introduced by business processes. The definition of a certain level of QoS using the existing models is just driven by technical aspects of the running applications. Novel business aware QoS provisioning approaches should account for the dynamic requirements of business processes. This talk will give an idea of the problem and possible solutions and their benefits.

Biosketch: Patrick-Benjamin Bök received his B.Sc. (with honors) and his M.Sc. (with honors) at the Ruhr-University Bochum, Germany, both in Applied Computer Sciences, in 2006 and 2007, respectively. Since 2007 he is a research assistant at the Research Group for Integrated Information System in the Faculty of Electrical Engineering and Information Sciences at Ruhr-University Bochum, Germany. In 2012 he received his Dr.-Ing. (PhD) with honors. He performs tutorials about technical improvements for computer networks and also about enterprise planning of computer networks.

NIME 3: Multimedia Networking II

Room: 0131
Chair: Dr Claudio Palazzi (University of Padua, Italy)

The Effect of TCP Variants on the Coexistence of MMORPG and Best-Effort Traffic

Jose Saldana (University of Zaragoza, Spain); Mirko Suznjevic (University of Zagreb, Croatia); Luis Sequeira (University of Zaragoza, Spain); Julián Fernández-Navajas (University of Zaragoza, Spain); Maja Matijasevic (University of Zagreb, Croatia); José Ruiz-Mas (University of Zaragoza, Spain)

A Survey of AoIM, Distribution and Communication in Peer-to-Peer Online Games
Christopher Carter (Liverpool John Moores University, United Kingdom); Abdennour El Rhalibi (Liverpool John Moores University, United Kingdom); Madjid Merabti (Liverpool John Moores University, United Kingdom)

Loot Distribution in Massive Online Games: foreseeing Impacts on the Players Base
Dario Maggiorini (University of Milano, Italy); Antonio Nigro (University of Milano, Italy); Laura Anna Ripamonti (University of Milano, Italy); Marco Trubian (University of Milan, Italy)

A Survey of Opportunistic Data Gathering and Dissemination Techniques
Armir Bujari (University of Padua, Italy)

WiMAN 3: Sensor and Ad-hoc Networks

Room: 0201
Chair: Xiaoyan Li (Lafayette College, USA)

Revisiting Gossip-Based Ad-Hoc Routing
Albana Gaba (Vrije Universiteit Amsterdam, The Netherlands); Konrad Iwanicki (University of Warsaw, Poland); Spyros Voulgaris (Vrije Universiteit, The Netherlands); Maarten van Steen (VU University Amsterdam, The Netherlands)

Differentiated Reliability for Wireless Multimedia Sensor Networks
Nestor Tiglao (INESC ID, Portugal); Antonio M. Grilo (INESC/IST, Portugal)

A Software-Defined Radio tool for experimenting with RSS measurements in IEEE 802.15.4: implementation and applications
Angelo Coluccia (University of Salento, Italy); Fabio Ricciato (Universitá del Salento, Italy)

Selective and Secure Over-The-Air Programming for Wireless Sensor Networks
Nils Aschenbruck (University of Osnabrück, Germany); Jan Bauer (University of Bonn, Germany); Alexander Bothe (University of Bonn, Germany); Jakob Bieling (University of Bonn, Germany); Matthias Schwamborn (University of Osnabrück, Germany)

coHetNet 3: Keynote 2

Room: 0231
Title: "Heterogeneous Networks in LTE-Advanced"
Speaker: Dr. Stefan Brueck (Qualcomm, Germany)
Chair: Dr. Alvaro Valcarce (TriaGnoSys GmbH, Germany)

Abstract: 3GPP Long-term Evolution (LTE) allows operators to use new and wider spectrum and complements 3G networks with higher data rates, lower latency and a flat, IP-based architecture. To further improve the broadband user experience in an ubiquitous and cost-effective manner, 3GPP has been working on various aspects of LTE-Advanced. Since radio link performance is quickly approaching theoretical limits with 3G enhancements and LTE, the next performance leap will come from an evolved network topology. This talk discusses the need for an alternative deployment model and topology using heterogeneous networks. The concept of LTE-Advanced based heterogeneous networks is about improving spectral efficiency per unit area. Using a mix of macro, pico, femto and relay cells, heterogeneous networks enable flexible and low-cost deployments and provide a uniform broadband experience. To enhance the performance of these networks, advanced techniques are described, which are needed to manage and control interference and deliver the full benefits of such networks. These techniques include cell range expansion, adaptive inter cell interference coordination and interference cancellation receivers.

Biosketch: Stefan Brueck studied mathematics and electrical engineering at the University of Technology Darmstadt, Germany, and Trinity College Dublin, Ireland. He received his Dipl.-Math. and Dr.-Ing degrees in 1994 and 1999, respectively. From 19999 to 2008 he was working for Lucent Technologies and Alcatel-Lucent in Bell Labs and UMTS Systems Engineering, where he was responsible for the MAC layer design of the HSPA base station. In May 2008 he joined Qualcomm Research Germany and currently leads the Radio Systems R&D activities in the R&D center in Nuremberg. He is involved in several research projects on LTE-Advanced and participates in the LTE-Advanced standardization in 3GPP.

MobiPST 2: Wireless and Networking Security II

Room: 2101

Chair: Wei Liu (Georgia Gwinnett College, USA)

A Comprehensive Security Model for New Challenges in Networking Applications
Eric Chan-Tin (Oklahoma State University, USA); Tingting Chen (Oklahoma State University, USA); Subhash Kak (Oklahoma State University, USA)

Crowdsourcing the Crisis
Alfred C. Weaver (University of Virginia, USA); Joseph P. Boyle (University of Virginia, USA)

The VIRTUS Middleware: an XMPP based architecture for secure IoT communications
Paolo Brizzi (Istituto Superiore Mario Boella, Italy); Davide Conzon (Istituto Superiore Mario Boella, Italy); Thomas Bolognesi (Istituto Superiore Mario Boella, Italy); Riccardo Tomasi (ISMB (Istituto Superiore Mario Boella), Italy);Maurizio A. Spirito (ISMB, Italy); Antonio Lotito (Istituto Superiore Mario Boella, Italy)

Smart Grid Privacy: Issues and Solutions
Sherali Zeadally (University of the District of Columbia, USA); Farhan Siddiqui (Walden University, Canada); Cristina Alcaraz (National Institute of Standards and Technology); Samara Galvao (University of the District of Columbia, USA)

Security Considerations around End-to-End Security in the IP-based Internet of Things
Martina Brachmann (Brandenburg University of Technology Cottbus, Germany); Sye Loong Keoh (Philips Research, The Netherlands); Oscar Garcia Morchon (Philips Research Europe, The Netherlands); Sandeep Kumar(Philips Research, The Netherlands)

PMECT 2: Performance on Network

Room: 2131
Chair: Ameen Chilwan (Norwegian University of Science and Technology)

Buffer Occupancies in Tandem Networks With Size-Retaining Data Packets
Werner Sandmann (Clausthal University of Technology, Germany)

TCP's Retransmission Timer and the Minimum RTO
Alae Loukili (Towson University, USA); Alexander L Wijesinha (Towson University, USA); Ramesh Karne (Towson University, USA); Anthony K Tsetse (Towson University, USA)

Experimental Evaluation of TCP Implementations on Linux/Windows Platforms
Yue Zhou (Communication University of China, P.R. China); Jinyao Yan (ETH Zurich, Switzerland)

16:00—18:00

ContexQoS 4: Context-aware QoS for Networking Applications

Room: 0101
Chair: Björn Dusza (TU Dortmund, Germany)

Class-Based Context Quality Optimization For Context Management Frameworks
Ahmed Shawky (Aalborg University, Denmark); Rasmus Olsen (Aalborg University, Denmark); Jens M. Pedersen (Aalborg University, Denmark); Hans-Peter Schwefel (Forschungszentrum Telekommunikation Wien, Austria)

Improving the Distributed Fair Congestion Avoidance Protocol for Home Area Networks with Internet Access Links
Patrick-Benjamin Bök (Ruhr-University Bochum, Germany); Katharina Kohls (Ruhr-University Bochum, Germany); Stephanie Dünhaupt (Ruhr-University Bochum, Germany); York Tüchelmann (Ruhr-University Bochum, Germany)

A Multi-Classification Approach for the Detection and Identification of eHealth Applications
Monika Grajzer (Telcordia Poland, Poland); Michał Koziuk (Telcordia Poland, Poland); Piotr Szczechowiak (Telcordia Poland, Poland); Antonio Pescapé (University of Napoli Federico II, Italy)

Context-driven Resource Over-provisioning Approach for Rich Networking
José Castillo Lema (Universidade da Coruña, Spain); Elifranio Cruz (Universidade Federal do Ceará, Brazil); Augusto Jose Venancio Neto, Ph. D. (Universidade Federal do Ceará, Brazil); Susana Sargento (Instituto de Telecomunicações, Universidade de Aveiro, Portugal); Eduardo Cerqueira (Federal University of Para, Brazil)

Seamless Context-aware Voice Service in the Cloud for Heterogeneous Network Environment
Thang Tran (TU Dortmund University, Germany); Maike Kuhnert (TU Dortmund University, Germany); Christian Wietfeld (TU Dortmund University, Germany)

NIME 4: Multimedia Networking III

Room: 0131
Chair: Dr Gustavo Marfia (University of Bologna, Italy)

Delayed Chaining: A Practical P2P Solution for Video-on-Demand
Jehan-Francois Pâris (University of Houston, USA); Ahmed Amer (Santa Clara University, USA)

K-hop Packet Forwarding Schemes for Cooperative Video Streaming over Vehicular Networks
Chao-Hsien Lee (Kaohsiung Medical University, Taiwan); Chung-Ming Huang (National Cheng Kung University, Taiwan); Chisa-Ching Yang (National Cheng Kung University, Taiwan); Hsiao-Yu Lin (National Cheng Kung University, Taiwan)

Ubiquitous Social Cams
Ombretta Gaggi (University of Padua, Italy); Nicola Moretti (University of Padova, Italy); Claudio E. Palazzi (University of Padua, Italy)

Measuring the Availability of Images Posted on Social Media Sites
Arash Nourian (McGill University, Canada); Muthucumaru Maheswaran (McGill University, Canada)

WiMAN 4: Synchronization, Localization, and Control

Room: 0201
Chair: Hung-Chin Jang (National Chengchi University, Taiwan)

Practical Time Synchronization for OFDM Systems on Mobile Channel
Hyungu Hwang (Electronics and Telecommunications Research Institute, Korea); Daeho Kim (Mobile Communication Laboratory, Korea)

Reducing the Computational Cost of Ratio-based Indoor Localization
John Keller (Lafayette College, USA); Xiaoyan Li (Lafayette College, USA)

An VoD Scheme with Implicit Error Correction using Damaged Data
Rafael Asorey-Cacheda (Universidad de Vigo, Spain); Belén Pedrero-López (Gradiant, Spain); Francisco J. González-Castaño (Universidad de Vigo, Spain)

coHetNet 4: Interference and Mobility Management

Room: 0231
Chair: Dr. Lorenzo Galati Giordano (Azcom Technology srl, Italy)

On Interference Management Techniques in LTE Heterogeneous Networks
Meryem Simsek, Andreas Czylwik (University of Duisburg-Essen, Germany), Mehdi Bennis (University of Oulu, Finland)

Radio Resource Allocation in Buildings with Dense Femtocell Deployment
Jimin Liu, Joyce Wu, Jiming Chen (RANPLAN Wireless Network Design, UK), Peng Wang (University of Bedfordshire, UK), Jie Zhang (University of Sheffield, UK)

Performance Analysis of Ranking for QoS (RafoQ) Handover Algorithm for Selection of Access Network in Heterogenous Wireless Networks
Fazal Wahab Karam, Terje Jensen (Norwegian University of Science and Technology, Norway)

A Decoupling Approach for Distributed Mobility Management
Andréa Nascimento, Rute Sofia (SITI, Lusófona University, Portugal), Tiago Condeixa, Susana Sargento (University of Aveiro, Portugal)

SN: Sensor Network Protocols and Algorithms

Room: 2131
Chair: Angelo Coluccia (University of Salento, Italy)

MultiMAC: A Multiple MAC network stack architecture for TinyOS
Daniel van den Akker (University of Antwerp - IBBT, Belgium); Chris Blondia (University of Antwerp, Belgium

The Relay Area Problem in Wireless Sensor Network
Anthony Kleerekoper (University of Manchester, United Kingdom);Nicholas Paul Filer (University of Manchester, United Kingdom)

Reliable localized event detection in a wireless distributed radio telescope
Suhail Yousaf (VU University, The Netherlands); Rena Bakhshi (VU University Amsterdam, The Netherlands); Maarten van Steen (VU University Amsterdam, The Netherlands)

Main Conference

Tuesday, July 31st

8:30—10:15

Welcome and Keynote I:

Title: Networks in Emergency Cyber-Physical-Human Systems
Speaker: Erol Gelenbe, Imperial College, London, UK
Room: Audimax

Abstract: Emergency management systems (EMS) are important and complex examples of Cyber-Physical-Human systems where wireless and wired networks play a crucial role. EMS are deployed so as to optimise the outcome of an emergency from a human perspective, and they use sensor networks, networked decision nodes and communications with evacuees and first responders to optimise the overall Quality of Service to benefit human beings in terms of survival, health and safety, and for the the protection of nature, property and valuable infrastructures. However the use of ICT for emergency management side effects in terms of failures and malicious attacks of the ICT system, so that the outcome will be affected by how well the ICT system operates under stress. This presentation will survey relevant research on wireless sensor-assisted EMS, including networking, distributed control, and knowledge discovery, and focus on new research regarding the increased effectiveness and liabilities that wireless networks introduce in an EMS system when adversaries exacerbate the emergency by malicious wireless attacks.

10:45—12:15

Energy Efficiency

Room: 0101
Chair: Olga Goussevskaia (UFMG, Brazil)

CDC: An Energy-Efficient Contact Discovery Scheme For Pocket Switched Networks
Shengbo Yang (Nanyang Technological University, SG), Chai Kiat Yeo (Nanyang Technological University, SG), Bu Sung Lee (Nanyang Technological University, SG)

Energy-Efficient QoS Provisioning in Demand Assigned Satellite NDMA Schemes
Francisco Ganhão (Universidade Nova de Lisboa, PT), Luis Bernardo (Universidade Nova de Lisboa, PT), Rui Dinis (Instituto de Telecomunicações/UNINOVA/FCT-UNL, PT), Gonçalo Barros (FCT-UNL, UNINOVA, PT), Eduardo Santos (FCT-UNL, UNINOVA, PT), António Furtado (Universidade Nova de Lisboa / UNINOVA, PT), Rodolfo Oliveira (Universidade Nova de Lisboa/Uninova, PT), Paulo Pinto (Universidade Nova de Lisboa, PT)

Radio Planning of Energy-Efficient Cellular Networks
Silvia Boiardi (Politecnico di Milano, IT), Antonio Capone (Politecnico di Milano, IT), Brunilde Sansò (Ecole Polytechnique de Montreal, CA)

Energy-Efficient Stochastic Target Coverage in Sensor Surveillance Systems
Pan Wu (Nanjing University, CN), Xiang Cao (Nanjing University, CN), Xiaobing Wu (Nanjing University, CN), Guihai Chen (Shanghai Jiao Tong University, CN)

Online Social Networks

Room: 0131
Chair: Thorsten Strufe (Technical University Darmstadt, Germany)

Analysis and Comparison of Interaction Patterns in Online Social Network and Social Media
Jaili Lin (Institute of Computing Technology, Chinese Academy of Sciences, CN), Zhenyu Li (Institute of Computing Technology, Chinese Academy of Sciences, CN), Dong Wang (Institute of Computing Technology, Chinese Academy of Sciences, CN), Kavé Salamatian (LISTIC PolyTech, Université de Savoie Chambery Annecy, FR), Gaogang Xie (Institute of Computing Technology, Chinese Academy of Sciences, CN)

Can online social friends help to improve data swarming performance?
Honggang Zhang (Suffolk University, US), Benyuan Liu (University of Massachusetts Lowell, US), Xiayin Weng (Suffolk University, US), Chao Yu (Suffolk University, US)

An Analysis of the Subscription in User-Generated Content Video Systems
Zhenyu Li (Institute of Computing Technology, Chinese Academy of Sciences, CN), Jaili Lin (Institute of Computing Technology, Chinese Academy of Sciences, CN)

Influential Neighbours Selection for Information Diffusion in Online Social Networks
Hyoungshick Kim (University of British Columbia, UK), Eiko Yoneki (University of Cambridge, UK)

Ad hoc and Mesh Networks

Room: 0201
Chair: Rasmus Olsen (Aalborg University, Denmark)

kTC - Robust and Adaptive Wireless Ad-hoc Topology Control
Immanuel Schweizer (Technische Universität Darmstadt, DE), Michael Wagner (Technische Universität Darmstadt, DE), Dirk Bradler (TU Darmstadt, DE), Max Mühlhäuser (Technical University Darmstadt, DE), Thorsten Strufe (Technical University Darmstadt, DE)

The Arbitrating Value Transfer Protocol (AVTP) - Deterministic Binary Countdown in Wireless Multi-hop Networks
Dennis Christmann (University of Kaiserslautern, DE), Reinhard Gotzhein (University of Kaiserslautern, DE)

Intra-Mesh Congestion Control for IEEE 802.11s Wireless Mesh Networks
Barbara Staehle (Fraunhofer IIS, DE), Michael Bahr (Siemens AG, DE), Desheng Fu (Leibniz University Hanover, DE)

Mesh Routing for Error Resilient Delivery of Multiple-Description Coded Image/Video Content
Uma Parthavi Moravapalle (Indian Institute of Technology Delhi, IN), Swades De (Indian Institute of Technology, Delhi, IN)

13:30—15:00

Panel Discussion I

Topic: Architecting the Future Internet IETF Evolutionary vs. Academic Clean-Slate
Moderator: Malathi Veeraraghavan (University of VA, USA)
Panelists:

Ken Calvert, University of Kentucky, USA
Hiroaki Harai, NICT, Japan
Christos Papadopoulos, Colorado State University, USA
Malathi Veeraraghavan, University of Virginia, USA

Room: Audimax

Abstract: Several problems have been identified in today's Internet. These include global routing scalability, security, high operational costs, energy consumption, and difficulty in introducing new services, among others. For example, the global routing scalability problem has led to efforts in the IETF such as Locator/Identifier Split Protocol (LISP) as well as new routing and addressing architectures in the academic research community. Panelists will compare and contrast evolutionary IETF approaches with academic clean-slate solutions.

15:15—16:45

Cognitive Radio Networks

Room: 0101
Chair: Kai Zeng (University of Michigan – Dearborn, USA)

OpenBTS: a step forward in the cognitive direction
Pasquale Pace (University of Calabria, IT), Valeria Loscrí (University of Calabria, IT)

Efficient Location Management Scheme for Group Applications in Cellular Networks
Sunae Shin (University of Missouri – Kansas City, US), Xinjie Guan (University of Missouri-Kansas City, US), Baek-Young Choi (University of Missouri – Kansas City, US)

Generalized-Bi-Connectivity for Fault Tolerant Cognitive Radio Networks
Hai Liu (Hong Kong Baptist University, HK) ,Youhua Zhou (South China University of Technology, CN), Xiaowen Chu (Hong Kong Baptist University, HK), Yiu-Wing Leung (Hong Kong Baptist University, HK)

Controlling Spectrum Handoff With A Delay Requirement in Cognitive Radio Networks
Adisorn Lertsinsrubtavee (Université Pierre et Marie Curie – Paris 6, FR), Naceur Malouch (Université Pierre et Marie Curie – Paris 6, FR), Serge Fdida (UPMC Sorbonne Université, FR)

Security

Room: 0131
Chair: Hui Zang (Sprint, USA)

A Smartphone Security Architecture for App Verification and Process Authentication
Osman Ugus (Hamburg University of Applied Science, DE), Martin Landsmann (Hamburg University of Applied Science, DE), Dennis Gessner (NEC Laboratories Europe, DE), Dirk Westhoff (HAW Hamburg, DE)

A Secure and Efficient Multi-Device and Multi-Service Authentication Protocol (SEMMAP) for 3GPP-LTE Networks
Jie Huang (University of South Carolina, US), Chin-Tser Huang (University of South Carolina, US)

Classification of malicious Web sessions
Katerina Goseva-Popstojanova (West Virginia University, US), Goce Anastasovski (West Virginia University, US), Risto Pantev (Microsoft, US)

Relieve Internet Routing security of Public Key Infrastructure
Luigi Vincenzo Mancini (Universitá di Roma Sapienza, IT), Claudio Soriente (ETH Zurich, ES), Angelo Spognardi (University of Rome La Sapienza, IT), Antonio Villani (Universitá Sapienza, IT), Domenico Vitali (Universitá Sapienza, IT)

Network Caching

Room: 0201
Chair: Honggang Zhang (Suffolk University, USA)

Content redundancy in BitTorrent
António Homem Ferreira (INESC-ID/Instituto Superior Técnico, PT), Ricardo Lopes Pereira (INESC-ID/Instituto Superior Técnico, PT), Fernando Silva (INESC-ID/Instituto Superior Técnico, PT)

A Trace-Driven Analysis of Caching in Content-Centric Networks
Gareth Tyson (King's College London, UK), Sebastian Kaune (Technische Universität Darmstadt, DE), Simon Miles (King's College London, UK), Yehia El-khatib (Lancaster University, UK), Andreas Mauthe (Lancaster University, UK), Adel Taweel (King's College London, UK)

Caching Policies for In-Network Caching
Zhe Li (Institut Telecom – Telecom Bretagne, FR), Gwendal Simon (Institut Telecom – Telecom Bretagne, FR), Annie Gravey (Institut Telecom – Telecom Bretagne, FR)

On Performance of Cache Policy in Information-Centric Networking
Sen Wang (Tsinghua University, CN), Jianping Wu (Tsinghua University, CN), Jun Bi (Tsinghua University, CN)

Sensor Networks I

Room: 0231
Chair: Habib M. Ammari (University of Michigan - Dearborn, USA)

Data Collection using Transmit-Only Sensors and a Mobile Robot in Wireless Sensor Networks
Baris Tas (University of Texas at San Antonio, US), Ali Tosun (University of Texas at San Antonio, US)

Emergency Cyber-Physical-Human Systems
Erol Gelenbe (Imperial College London, UK), Fang-Jing Wu (Nanyang Technological University, SG)

Let's Move: Adding Arbitrary Mobility to WSN Testbeds
Nils Aschenbruck (University of Osnabrück, DE), Jan Bauer (University of Bonn, DE), Jakob Bieling (University of Bonn, DE), Alexander Bothe (University of Bonn, DE), Matthias Schwamborn (University of Osnabrück, DE)

DACA: Data-Aware Clustering and Aggregation in Query-Driven Wireless Sensor Networks
Somaieh Bahrami (Sharif University of Technology, IR), Hamed Yousefi (Sharif University of Technology, IR), Ali Movaghar (Sharif University of Technology, IR)

Network Architecture I

Room: 2101
Chair: Brad Penoff (Google, USA)

Towards an Aggregation-aware Internet Routing
Yangyang Wang (Tsinghua University, CN), Jun Bi (Tsinghua University, CN), Jianping Wu (Tsinghua University, CN)

VNMBench: A Benchmark for Virtual Network Mapping Algorithms
Jin Zhu (University of Massachusetts, US), Tilman Wolf (University of Massachusetts, US)

Scalable NDN Forwarding: Concepts, Issues and Principles
Haowei Yuan (Washington University in St. Louis, US), Tian Song (Beijing Institute of Technology, CN), Patrick Crowley (Washington University in St. Louis, US)

A Pipeline IP Lookup Architecture with Random Duplicate Allocation
Yi Wu (Sun Yat-sen University, CN), Ge Nong (Sun Yat-Sen University, CN)

MAC Protocols

Room: 2131
Chair: Michael Bahr (Siemens AG, Germany)

Scheduling Wireless Links with Successive Interference Cancellation
Olga Goussevskaia (UFMG, BR), Roger Wattenhofer (ETH Zurich, CH)

Understanding the FICA MAC Protocol in High Data Rate WLANs
Fatima Zarinni (Stony Brook University, US), Samir Das (Stony Brook University, US)

btFICA MAC Protocol for High Data Rate WLANs
Fatima Zarinni (Stony Brook University, US), Samir Das (Stony Brook University, US)

Tuning Fast Link Adaptation Algorithms for CSMA/CA- and CSMA/E2CA-based WLANs
Gabriel Martorell (Universitat de les Illes Balears, ES), Felip Riera-Palou (University of the Balearic Islands, ES), Guillem Femenias (University of the Balearic Islands, ES)

Wednesday, August 1st

8:30 –10:15

Keynote II

Title: Security and Privacy in Named-Data Networking
Speaker: Gene Tsudik, University of California/Irvine, USA
Chair: TBD

Abstract: With the growing realization that current Internet protocols are reaching the limits of their senescence, a number of on-going research efforts aim to design potential next-generation Internet architectures. Although they vary in maturity and scope, in order to avoid past pitfalls, these efforts seek to treat security and privacy as both fundamental and initial requirements.

This talk will focus on security and privacy in one candidate next-generation Internet architecture called Named-Data Networking (NDN) – an instantiation of Information-Centric Networking approach. By stressing content dissemination, NDN is an be attractive and viable approach to many types of current and emerging communication models. It also incorporates some useful security and privacy features.

We will begin by considering communication privacy and anonymity in NDN and describe an NDN add-on (called ANDANA) that offers the functionality similar to TOR on today's Internet. Since resilience to Denial of Service (DoS) attacks that plague today's Internet is a major issue for any new architecture, we will discuss some initial research towards assessment and possible mitigation of DoS in NDN. After identifying and analyzing several new types of attacks, we investigate their variations, effects and counter-measures. Finally, we will discuss how to adapt NDN and its security features to environments other than content distribution, using the example of building automation.

10:45—12:15

Cellular Networks

Room: 0101
Chair: Baek-Young Choi (University of Missouri - Kansas City, USA)

Handovers with Forward Admission Control for Adaptive TCP Streaming in LTE-Advanced with Small Cells
Reuven Cohen (Technion, IL), Anna Levin (IBM, IL)

Joint Equalization and Phase Noise Tracking for Doubly Selective Channels
Pedro Pedrosa (Instituto de Telecomunicações – Lisboa, PT), Rui Dinis (Instituto de Telecomunicações/UNINOVA/FCT-UNL, PT), Fernando Nunes (Instituto Superior Tecnico, PT)

Dynamic Interference Management in Femtocells
Michael Lin (Pennsylvania State University, US), Tom La Porta (Penn State University, US)

Evolving Landscape of Cellular Network Traffic
Han Liu (UC Davis, US), Chen-Nee Chuah (University of California, Davis, US), Hui Zang (Sprint, US), Sara Gatmir-motahari (Sprint, US)

Network Architecture II

Room: 0131
Chair: Tilman Wolf (University of Massachusetts, USA)

DiPIT: a Distributed Bloom-Filter based PIT Table for CCN Nodes
Wei You (Orange Labs, FR), Bertrand Mathieu (Orange Labs, FR), Patrick Truong (Orange Labs, FR), Jean-Francois Peltier (Orange Labs, FR), Gwendal Simon (Institut Telecom – Telecom Bretagne, FR)

Leveraging Legacy Software in Clean-Slate Network Architectures
Song Yuan (University of Kentucky, US), Onur Ascigil (University of Kentucky, US), James Griffioen (University of Kentucky, US), Ken Calvert (University of Kentucky, US)

A Resource Description Language with Vagueness Support for Multi-Provider Cloud Networks
Gregor Schaffrath (T-Labs (Deutsche Telekom) / TU Berlin, DE), Stefan Schmid (T-Labs & TU Berlin, DE), Ishan Vaishnavi (NTT DOCOMO, Inc., DE), Ashiq Khan (NTT DOCOMO, Inc., DE), Anja Feldmann (TU-Berlin, DE)

End User Node Access to Application-Tailored Future Networks
Hans Wippel (Karlsruhe Institute of Technology (KIT), DE), Oliver Hanka (EADS Innovation Works, DE)

Network Performance I

Room: 0201
Chair: Chai Kiat Yeo (Nanyang Technological University, Singapore)

Evaluating end-user network benefits of peering with path latencies
Mohammad Ahmad (University of Central Florida, US), Ratan Guha (University of Central Florida, US)

Optimizing Network Performance using Weighted Multipath Routing
Junjie Zhang (Polytechnic Institute of New York University, US), Kang Xi (Polytechnic Institute of New York University, US), Liren Zhang (United Arab Emirates University, AE), H. Jonathan Chao (Polytechnic Institute of New York University, US)

Network Coding Aware Queue Management in Multi-Rate Wireless Networks
Nicola De Coppi, Jianxia Ning, George Papageorgiou, Michele Zorzi, Srikanth V. Krishnamurthy (UC Riverside) and Thomas La Porta (Penn State University)

Portable and Performant Userspace SCTP Stack
Brad Penoff (Google, US), Alan Wagner (University of British Columbia, CA), Irene Rüngeler (Münster University of Applied Sciences,

DE)

13:30—15:00

Panel Discussion II

Topic: Privacy in the Age of Big Data
Moderator: Guevara Noubir, Northeastern University, USA
Panelists:

Laurent Beslay, European Commission DG Research Centre, Italy
Paul Francis, Max Planck Institute for Software Systems, Germany
Guevara Noubir, Northeastern University, USA
Gene Tsudik, University of California at Irvine, USA
Dirk Westhoff, Fakultät Technik und Informatik, Germany

Room: Audimax

Abstract: The pervasiveness of sensing and data collecting devices and systems (such as smart phones, cameras, GPS, street cameras, base stations), the low cost of data storage, and the widespread use of free online platforms for communications and storage of users data, is raising unprecedented privacy concerns. The panelist will present their perspective on these concerns, debate their criticality, and provide approaches to address them both from a research perspective and from the policy and legal side.

15:15—16:45

Sensor Networks II

Room: 0101
Chair: Nils Aschenbruck (University of Osnabrück, Germany)

Efficient and Accurate Object Classification in Wireless Multimedia Sensor Networks
Hakan Oztarak (Middle East Technical University, TR), Turgay Yilmaz (Middle East Technical University, TR), Kemal Akkaya (Southern Illinois University Carbondale, US), Adnan Yazici (Middle East Technical University, TR)

On Breach Path Detection Reliability of Wireless Sensor Grids
Mohamed Shazly (University of Alberta, CA), Ehab Elmallah (University of Alberta, CA), Janelle Harms (University of Alberta, CA)

Compressive Sensing for Efficiently Collecting Wildlife Sounds with Wireless Sensor Networks
Javier Diaz (Zagaia Project - Mobile Linux Development Center (FUCAPI/INdT), BR), Juan Colonna (Federal University of Amazonas (UFAM), BR), Rodrigo Soares (Federal University of Minas Gerais, BR), Carlos Figueiredo (FUCAPI - Research and Technological Innovation Center, BR), Eduardo Nakamura (FUCAPI - Research and Technological Innovation Center, BR)

Priority Sensitive Event Detection in Hybrid Wireless Sensor Networks
Kh Mahmudul Alam (Monash University, AU), Joarder Kamruzzaman (Monash University, AU), Gour Karmakar (Monash University, AU), Manzur Murshed (Monash University, AU)

Grid and Cloud Computing

Room: 0131
Chair: Stefan Schmid (T-Labs & TU Berlin, Germany)

Resource allocation for virtual routers through Non-cooperative games
Mohamed Said Seddiki (Higher School of Communication of Tunis, TN), Mounir Frikha (High School of Communication in Tunis, TN)

VNA: An Enhanced Algorithm for Virtual Network Embedding
Sarang Bharadwaj Masti (IIT-Madras, IN), Serugudi Raghavan (IIT Madras, IN)

Grey-box Approaches for Performance Prediction in Map-Reduce based Data Analytics Platforms
Selvi Kadirvel (University of Florida, US)

Toward A Genetic Algorithm Based Flexible Approach for the Management of Virtualized Application Environments in Cloud Platforms
Omar Abdul-Rahman (Hokkaido University, JP), Masaharu Munetomo (Hokkaido University, JP), Kiyoshi Akama (Hokkaido University, JP)

Network Performance II

Room: 0201
Chair: Ken Calvert (University of Kentucky, US)

Localization of Single Link-Level Network Anomalies
Emna Salhi (IRISA, FR), Samer Lahoud (IRISA, University of Rennes 1, FR), Bernard Cousin (IRISA, University of Rennes 1, FR)

Localization of network performance problems with multi-level discrete tomography
Sajjad Zarifzadeh (University of Tehran, IR), Constantine Dovrolis (Georgia Institute of Technology, US)

Topological Similarity-based Scheme for Large-scale Group Communication Services
Yuehua Wang (Beihang University, CN)

A Novel Transmission Protocol in Two-hop Relay Systems When Interference Cancellation Is Not Applicable
Yue Ma (Beijing University of Posts and Telecommunications, CN), Lihua Li (Beijing University of Posts and Telecommunications, CN), Qi Sun (Beijing University of Posts and Telecommunications, CN), Lei Song (Beijing University of Posts and Telecommunications, CN), Zhou Zhou (Beijing University of Posts and Telecommunications, CN)

17:00—18:30

Wireless LAN

Room: 0101
Chair: Swades De (Indian Institute of Technology, Delhi, India)

FIFS: Fine-grained Indoor Fingerprinting System
Jiang Xiao (HKUST, HK), Kaishun Wu (HKUST, HK), Youwen Yi (Hong Kong University of Science and Technology, HK), Lionel Ni (Hong Kong University of Science and Technology, HK)

On the impact of Multi-channel Technology on Safety-Message Delivery in IEEE 802.11p/1609.4 Vehicular Networks
Marco Di Felice (University of Bologna, IT), Ali J. Ghandour (American University of Beirut, LB), Hassan Artail (American University of Beirut, LB), Luciano Bononi (University of Bologna, IT)

MaxCD: Max-rate based Cooperative Downloading for Drive-Thru Networks
Shengbo Yang (Nanyang Technological University, SG), Chai Kiat Yeo (Nanyang Technological University, SG), Bu Sung Lee (Nanyang Technological University, SG)

Practical Power and Rate Control for WiFi
Thomas Huehn (Technical University Berlin, DE), Cigdem Sengul (TU-Berlin, DE)

Video and VOIP

Room: 0131
Chair: Andreas Mauthe (Lancaster University, UK)

Construction Method of Overlapped Cluster-trees Considering Inter-node Distance for Resilient Video Streaming
Tomoki Motohashi (Osaka University, JP), Akihiro Fujimoto (Osaka University, JP), Yusuke Hirota (Osaka University, JP), Hideki Tode (Osaka Prefecture University, JP), Koso Murakami (Osaka University, JP)

PPM - A Hybrid Push-Pull Mesh-Based Peer-to-Peer Live Video Streaming Protocol
Adel Ghanbari (Sharif University of Technology, IR), Hamid Rabiee (Sharif University of Technology, IR), Mohammad Khansari (University of Tehran, IR), Mostafa Salehi (Sharif University of Technology, IR)

Cross-Layer Optimization and Effective Airtime Estimation for Wireless Video Streaming
Mohammad Alsmirat (Wayne State University, US), Nabil Sarhan (Wayne State University, US)

The Impact of Evasion on the Generalization of Machine Learning Algorithms to Classify VoIP Traffic
Riyad Alshammari (Dalhousie University, CA), Nur Zincir-Heywood (Dalhousie University, CA)

Thursday, August 2nd

8:30–10:15

Keynote III

Title: Let's Dash - Dynamic Adaptive Streaming over HTTP – An international MPEG standard for Internet adaptive bit-rate streaming video delivery
Speaker: Dr. Michael Luby, Qualcomm Inc., USA
Room: Audimax

Abstract: Recent studies conclude that mobile data traffic will grow by a factor of 26 between 2011 and 2016 and that by 2016 video traffic will account for at least two-thirds of the total. The popularity of video also leads to dramatic numbers on the fixed internet: in North America, streaming entertainment video traffic contributes more than 50% of the downstream Internet traffic at peak periods.

One of the cornerstones of this success is the use of HTTP as the delivery protocol – the ubiquitous protocol for internet delivery. HTTP was not designed for streaming over diverse networks to diverse devices, and thus the end user experience provided by using HTTP alone can be poor. A popular approach to augment HTTP is the following: The provider offers the same video content in multiple quality/bitrate HTTP versions, and each client independently adapts to its network conditions by dynamically selecting and switching to the appropriate version to ensure continuous playback at the highest quality possible.

MPEG has taken the lead on defining a unified format for enabling Dynamic Adaptive Streaming over HTTP (DASH). MPEG-DASH, ratified in 2011 and published as a standard (ISO/IEC 23009-1) in April 2012, is an evolution of existing proprietary adaptive streaming technologies and addresses new requirements and use cases. With the completion of the MPEG-DASH standard, the industry is provided with an enabling standard for massively scalable distribution of high-quality streaming video over the internet, and the focus has now shifted towards deployment and productization of MPEG-DASH. Towards this end, the DASH Promoters Group (http://dashpg.org) was created to address interoperability and promotional activities. The group has rapidly grown to more than 60 industry players, including Microsoft, Netflix, Akamai, Samsung, Sony, Ericsson, Adobe, Cisco, Harmonic, Dolby and Qualcomm. The significant efforts currently under way to deploy MPEG-DASH in a wide range of contexts raises the expectation that MPEG-DASH will become THE format for dynamic adaptive streaming over HTTP.

In this talk, we provide an overview of the MPEG-DASH standard, how it can be used, and describe some of the activities of the DASH Promoters Group.

10:45—12:15

High Speed Networks

Room: 0101
Chair: Nabil Sarhan (Wayne State University, USA)

Performance Analysis of Packet Capture Methods in a 10 Gbps Virtualized Environment
Michael Schultz (Washington University in Saint Louis, US), Patrick Crowley (Washington University in St. Louis, US)

Advance Bandwidth Reservation with End-to-End Performance Guarantee in High-performance Networks
Poonam Dharam (University of Memphis, US), Qishi Wu (University of Memphis, US)

Evaluating and Optimizing IP Lookup on Many core Processors
Peng He (Institute of Computing Technology Chinese Academy of Sciences, CN), Hongtao Guan (The Institute of Computing Technology of the Chinese Academy of Sciences, CN), Gaogang Xie (Institute of Computing Technology, Chinese Academy of Sciences, CN), Kavé Salamatian (LISTIC PolyTech, Université de Savoie Chambery Annecy, FR)

Multiadaptive sampling for lightweight network measurements
João Marco Silva (Universidade do Minho, PT), Solange Lima (University of Minho, PT)

Network Traffic and Security

Room: 0131
Chair: Katerina Goseva-Popstojanova (West Virginia University, USA)

CUTE: traffic Classification Using Terms
Soheil Hassas Yeganeh (University of Toronto, CA), Milad Eftekhar (University of Toronto, CA), Yashar Ganjali (University of Toronto, CA), Ram Keralapura (Narus, US), Antonio Nucci (Narus inc., US)

Mongoose: Throughput Redistributing Virtual Worlds
Iain Oliver (University of St Andrews, UK), Alan Miller (University of St Andrews, UK), Colin Allison (University of St Andrews, UK)

Attack-Resistant Distributed Time Synchronization for Virtual Private Networks
Michael Rossberg (Ilmenau University of Technology, DE), Rene Golembewski (Ilmenau University of Technology, DE), Guenter Schaefer (Technische Universitaet Ilmenau, DE)

Source Address Filtering For Large Scale Network: A Cooperative Software Mechanism Design
Shu Yang (University of Tsinghua, CN), Mingwei Xu (Tsinghua University, CN), Dan Wang (The Hong Kong Polytechnic University,

HK), Jianping Wu (Tsinghua University, CN)

13:30—15:00

Panel Discussion III

Cognitive Communications for Disaster Response
Chair: Alhussein Abouzeid, RPI, USA
Panelists:

Alhussein Abouzeid, Rensselaer Polytechnic Institute, USA
Sajal K. Das, University of Texas at Arlington, USA
Alexander M. Wyglinski, Worcester Polytechnic Institute, USA
Taieb Znati, University of Pittsburgh, USA

Room: Audimax

Abstract: The vision of pervasive computing and communications is quickly becoming a reality. The design of such pervasive networks involves a variety of engineering, scientific, social and economic challenges to guarantee acceptable performance in normal operating conditions. In addition, these networks need to continue to perform in the case of disasters, where the systems are most challenged, but where their importance is critical to achieve effective disaster response. The concept of cognitive radio encompasses a number of paradigms whose objectives are to lead to more flexible, effective, and efficient communication networks, and thus offers the possibility of meeting the design requirements for operation even in disaster scenarios. The panelists will present their perspectives, opinions, and concerns regarding the use of cognitive radio networks in the context of disaster response.

15:15—16:45

Sensors in Critical Applications

Room: 0101
Chair: Michael Roßberg (Technische Universität Ilmenau, Germany)

Bidirectional ECG Monitoring with an Event Detection Policy Engine
Andrew Jurik (Johns Hopkins University Applied Physics Laboratory, US), Alfred Weaver (University of Virginia, US)

Secure and Scalable Cloud-based Architecture for e-Health Wireless sensor networks
Ahmed Lounis (University of Technology of Compiègne, FR), Abdelkrim Hadjidj (Université de Technologie de Compiègne, FR), Abdelmadjid Bouabdallah (Universite de Technologie - Compiegne, FR), Yacine Challal (Compiegne University of Technology, Heudiasyc lab., FR)

Behavior Rule Based Intrusion Detection for Supporting Secure Medical Cyber Physical Systems
Robert Mitchell (Virginia Tech, US), Ing-Ray Chen (Virginia Tech, US)

A New Scalable Key Pre-distribution Scheme for WSN
Walid Bechkit (Compiegne University of Technology (UTC), FR), Yacine Challal (Compiegne University of Technology, Heudiasyc lab., FR), Abdelmadjid Bouabdallah (Universite de Technologie - Compiegne, FR)

Pervasive Networking

Room: 0131
Chair: Patrick Crowley (Washington University at Saint Louis, USA)

A New Localized Geometric Routing with Guaranteed Delivery on 3-D Wireless Networks
Jun Duan (Renmin University of China, CN), Donghyun Kim (North Carolina Central University, US), Wenping Chen (Renmin University of China, CN), Deying Li (Renmin University of China, CN)

Community Membership Management for Transient Social Networks
Lateef Yusuf (Georgia Institute of Technology, US), Umakishore Ramachandran (Georgia Institute of Technology, US)

Attribute Based Content Sharing in Mobile Adhoc Networks of Smartphones over WiFi
Thomas Georges Cyrille Kooh (University of Colorado at Boulder, US), Qin Lv (University of Colorado Boulder, US), Shivakant Mishra (University of Colorado, US)

Buddy Routing: A Routing Paradigm for NanoNets Based on Physical Layer Network Coding
Ruiting Zhou (University of Calgary, CA), Zongpeng Li (University of Calgary, CA), Chuan Wu (The University of Hong Kong, HK), Carey Williamson (University of Calgary, CA)

17:00—17:15

Closing Remarks

Room: Audimax
Chair: TBD

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