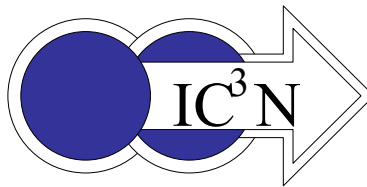


ICCCN 2013

22nd International Conference on
Computer Communications and Networks
July 30 – August 2, 2013

Final Program



Message from the General Chair



It is my great pleasure to welcome you to the International Conference on Computer Communications and Networks (ICCCN 2013) which takes place in beautiful Nassau, Bahamas on July 30 – August 2, 2013. It has been a real honor and privilege to serve as the General Chair of the conference.

Over the past twenty-two years, ICCCN has provided a cross-disciplinary venue for researchers and practitioners to address the rich space of communications and networking research and technology. This year, the program spans four days and includes one day of thematic workshops followed by three days of the main conference. The three Keynote presentations, three Panels, and planned social events will provide ample opportunities for discussions, debate, and exchange of ideas and information among conference participants.

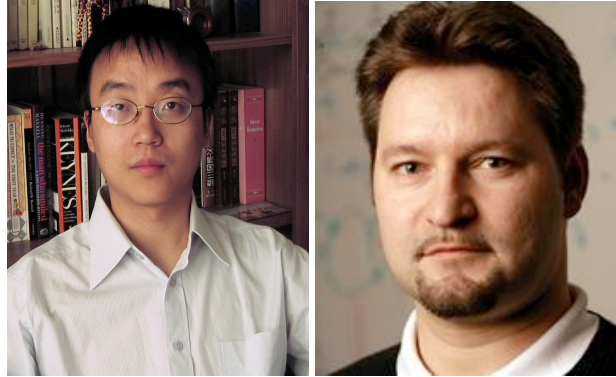
The conference would not have been possible without the enthusiastic and hard work of a number of colleagues. We would like to express our appreciation to the Technical Program Chairs, Christian Poellabauer and Fan Zhai, for their valuable contribution in assembling the high quality conference program. We also thank the Workshop General Co-Chairs, Kewei Sha and Aaron Striegel, the Publicity Co-Chairs, Liqiang Zhang, Xinbing Wang, and Kyriakos Vlachos, the Student Travel Grant Co-Chairs, Nadine Shillingford and Chris Miller, the Publication Chair, Guido Maier, and the individual track and workshop chairs. A conference of this size relies on the contributions of many volunteers, and we would like to acknowledge the efforts of our TPC members and referees and their invaluable help in the review process. We are also grateful to all the authors who trusted the conference with their work.

Special thanks to the Keynote Speakers, Drs. Muriel Medard, Jack Brassil, and Admela Jukan, and the Panel Moderators, Drs. Malathi Veeraraghavan, Tilman Wolf, and Ilya Baldin, and all the panelists for sharing their views on current research topics. We appreciate the support of our sponsors, the IEEE Communications Society and NSF. We also thank Dr. E. K. Park, Chair of the ICCCN steering committee, for his vision and leadership.

We look forward to an exciting week of insightful presentations, discussions, and sharing of technical ideas with colleagues from around the world. We thank you for attending the conference and we hope that you enjoy your visit to the Bahamas.

George Rouskas, *North Carolina State University, USA*
ICCCN 2013 General Co-Chair

Message from the Technical Program Chairs



Welcome to ICCCN 2013!

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 2013 was fortunate to attract a high interest among the community, and the main conference received 300 submissions from 33 countries in 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 337 members of the Technical Program Committee worked efficiently and responsibly under tight time constraints to produce at least three reviews for each paper that provided the basis for the final paper selection.

The reviewing and selection process led to 86 regular papers and 9 invited papers for the main conference, resulting in an acceptance rate of 31%. 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, 30 papers were accepted for presentation at the workshops co-located with the main conference.

The main program of ICCCN 2013 covers three days and includes streams of up to four 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 data center networks, future network architectures, and software-defined networking and network virtualization. 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 Chair, and to all external referees for the quality and depth of the reviews, and their sense of responsibility and responsiveness under very tight deadlines.

Fan Zhai, *Qualcomm Inc., USA*

Christian Poellabauer, *University of Notre Dame, USA*

ICCCN 2013 Technical Program Co-Chairs

Organizing Committee

General Chair

- George Rouskas, North Carolina State University, USA

Technical Program Chairs

- Fan Zhai, Qualcomm Inc., USA
- Christian Poellabauer, University of Notre Dame, USA

Workshop Chairs

- Kewei Sha, Oklahoma City University, USA
- Aaron Striegel, University of Notre Dame, USA

Publicity Co-Chairs

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Registration Chair

- E.K. Park, CSU-Chico, USA

Publications Chair

- Guido Maier, Politecnico di Milano, Italy

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Track on Cognitive, Cellular, and Heterogeneous Wireless Networks (CCHN)

- Kai Zeng, University of Michigan, USA
- Shiwen Mao, Auburn University, USA

Track on Grid and Cloud Computing (GCC)

- Ada Gavrilovska, Georgia Tech, USA
- Pavan Balaji, Argonne National Lab, USA

Track on Mobile Computing and Communication Networks (MCCN)

- Sherali Zeadally, University of District of Columbia, USA
- Alben Mihovska, Aalborg University, Denmark

Track on Wireless LAN, Ad Hoc, and Mesh Networks (LAMN)

- Ivan Stojmenovic, University of Ottawa, Canada
- Kai Xing, University of Science and Technology of China, China

Track on Multimedia, Real-Time Networking, and Network Modeling (MRTM)

- Baek-Young Choi, University of Missouri, USA
- Alex Sprintson, Texas A&M University, USA

Track on Network Architectures and Clean-Slate Designs (NACSD)

- James Griffioen, University of Kentucky, USA
- Christos Papadopoulos, Colorado State University, USA

Track on Network Algorithms and Performance Evaluation (NAPE)

- Lisong Xu, University of Nebraska-Lincoln, USA
- Alhussein Abouzeid, Rensselaer Polytechnic Institute, USA

Track on Scalable, Reliable, and Energy-Efficient Networks (SREN)

- Fabrizio Granelli, University of Trento, Italy
- Dzmitry Kliazovich, University of Luxembourg, USA

Track on Streaming and Content Distribution Networking (SCDN)

- Songqing Chen, George Mason University, USA
- Yang Guo, Bell Labs, USA

Track on Sensor Networks, Embedded Systems, and Pervasive Computing (SEP)

- Liqiang Zhang, Indiana University South Bend, USA
- Lim Hock Beng, Nanyang Technological University, Singapore

Track on Security, Privacy, and Trust (SPT)

- Roberto Di Pietro, Roma Tre University of Rome, Italy
- Chin-Tser Huang, University of South Carolina, USA

Technical Program Committee

Cognitive, Cellular, and Heterogeneous Wireless Networks (CCHN)

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- Wei Chen, Tsinghua University, China
- Wei Cheng, University of California, Davis, USA
- Donglin Hu, Auburn University, USA
- Sha Hua, Polytechnic Institute of New York University, USA
- Yingsong Huang, Auburn University, USA
- Yiming Ji, University of South Carolina Beaufort, USA
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- Ming Li, Utah State University, USA
- Pan Li, Mississippi State University, USA
- Haiyang Liu, Honeywell Labs, USA
- Wei Liu, Huazhong University of Science and Technology, China
- Haiyan Luo, Cisco Systems, USA
- Allen MacKenzie, Virginia Tech, USA
- Petri Mähönen, RWTH Aachen University, Germany
- Shiwen Mao, Auburn University, USA
- Alexander Min, Intel Corporation, USA
- Brendan Mumey, Montana State University, USA
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- Daji Qiao, Iowa State University, USA
- Kyung-Joon Park, DGIST, South Korea
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- Yanming Shen, Dalian University of Technology, China
- Yi Shi, Intelligent Automation Inc., USA
- Xin Su, Tsinghua University, China
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- Wee Peng Tay, Nanyang Technological University, Singapore
- Haris Volos, University of Arizona, USA
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- Richard Wolff, Montana State University, USA
- Fan Wu, Shanghai Jiao Tong University, China
- Shaoen Wu, University of Southern Mississippi, USA
- Weidong Xiang, University of Michigan - Dearborn, USA

- Jing Xu, Huazhong University of Science and Technology, China
- Qing Yang, Montana State University, USA
- Kai Zeng, University of Michigan - Dearborn, USA
- Baoxian Zhang, Graduate University of the Chinese Academy of Sciences, China
- Hongwei Zhang, Wayne State University, USA
- Jin Zhang, Hong Kong University of Science and Technology, China
- Yaxiong Zhao, Amazon.com Inc, USA
- Youping Zhao, Beijing Jiaotong University, China
- Sheng Zhou, Tsinghua University, China
- Weiyong Zhu, Metropolitan State University of Denver, USA
- Yingying Chen, Stevens Institute of Technology, USA
- Donghyun Kim, North Carolina Central University, USA
- Pasquale Pace, DIMES - University of Calabria, Italy

Grid and Cloud Computing (GCC)

- Hasan Abbasi, Oak Ridge National Laboratory, USA
- Ahmad Afsahi, Queen's University, Canada
- Nawab Ali, Intel, USA
- George Almasi, IBM Research, USA
- Rajdeep Bhowmik, Cisco Systems, Inc., USA
- Ivona Brandic, Technical University of Vienna, Austria
- Ron Brightwell, Sandia National Laboratories, USA
- Darius Buntinas, Argonne National Laboratory, USA
- Rajkumar Buyya, University of Melbourne, Australia
- Franck Cappello, INRIA, France
- Alexandru Iosup, TU Delft, Netherlands
- Hyun-Wook Jin, Konkuk University, Korea
- Daniel S. Katz, University of Chicago & Argonne National Laboratory, USA
- Scott Klasky, Oak Ridge National Laboratory, USA
- Manish Parashar, Rutgers University, USA
- Alan Wagner, University of British Columbia, Canada
- Cho-Li Wang, University of Hong Kong, Hong Kong
- Matt Wolf, Georgia Tech, USA
- Ramin Yahyapour, Dortmund University of Technology, Germany
- Weikuan Yu, Auburn University, USA

Mobile Computing and Communication Networks (MCCN)

- Cristina Alcaraz, University of Malaga, Spain
- Ioannis Anagnostopoulos, University of Central Greece, Greece
- Vangelis Angelakis, Linköping University, Sweden
- Antoine Bagula, University of Cape Town, South Africa
- Eduardo Cerqueira, Federal University of Para, Brazil
- Periklis Chatzimisios, Alexander TEI of Thessaloniki, Greece
- Ray-Guang Cheng, National Chiao-Tung University, Taiwan
- Ernesto Exposito, LAAS-CNRS, France
- Scott Fowler, Linköping University, Sweden
- Bo Hong, Georgia Institute of Technology, USA
- Gregorio Martinez, University of Murcia, Spain
- Liang Zhou, Nanjing University of Posts and Telecommunications, China
- Jong-Hyouk Lee, TELECOM Bretagne, France
- Ibrahim Kamel, University of Sharjah, UAE
- Yevgeni Koucheryavy, Tampere University of Technology, Finland
- Sofoklis Kyriazakos, CONVERGE, Greece
- Kai Lin, Dalian University of Technology, China
- Kami Makki, Lamar University, USA
- Abdelhamid Mellouk, University of Paris-Est (UPEC), France
- Hassnaa Moustafa, Intel Labs, USA
- Neeli Prasad, CTIF, Aalborg University, Denmark
- Joel Rodrigues, University of Beira Interior, Portugal
- Kwei Sha, Oklahoma City University, USA
- Farhan Sidiqqi, Prince Sultan University, Saudi Arabia
- Nicolas Sklavos, Technological Educational Institute of Patras, Greece
- Elias Tragos, Foundation for Research and Technology Hellas (FORTH-ICS), Greece
- Zhengping Wu, University of Bridgeport, USA

Wireless LAN, Ad Hoc, and Mesh Networks (LAMN)

- Tarek Abdelzaher, University of Illinois, Urbana Champaign, USA

- Venkataramana Badarla, Indian Institute of Technology Rajasthan, India
- Nilanjan Banerjee, University of Maryland, Baltimore County, USA
- Giuseppe Bianchi, University of Rome "Tor Vergata", Italy
- Fernando Boavida, University of Coimbra, Portugal
- Raffaele Bruno, IIT-CNR, Italy
- Wei Cheng, University of California, Davis, USA
- Jeong-Woo Cho, Royal Institute of Technology (KTH), Sweden
- Min Ding, NEC Laboratories America, USA
- Rafael Falcon, Larus Technologies Corporation, Research and Engineering, Canada
- Marco Fiore, INSA Lyon, CITI Lab, France
- Rung-Hung Gau, National Chiao Tung University, Taiwan
- Amitabha Ghosh, Princeton University, USA
- Olga Goussevskaia, UFMG, Brazil
- Emilio Leonardi, Politecnico di Torino, Italy
- Mo Li, Nanyang Technological University, Singapore
- Wei Lou, The Hong Kong Polytechnic University, Hong Kong
- Jun Luo, Nanyang Technological University, Singapore
- Mirco Musolesi, University of Birmingham, United Kingdom
- Andrea Passarella, IIT-CNR, Italy
- Jayanthi Rao, Ford Motor Company, Research and Advanced Engineering, USA
- Guillermo Riva, National Technological University, Argentina
- Kavé Salamatian, LISTIC PolyTech, Université de Savoie Chambéry Annecy, France
- Theodoros Salonidis, Technicolor, France
- Paolo Santi, IIT-CNR, Italy
- Stefan Schmid, T-Labs & TU Berlin, Germany
- Jens Schmitt, University of Kaiserslautern, Germany
- Pablo Serrano, Universidad Carlos III de Madrid, Spain
- Bo Sheng, University of Massachusetts Boston, USA
- Alexey Vinel, Tampere University of Technology, Finland
- Bing Wang, University of Connecticut, USA
- Cheng Wang, University of Ottawa, Canada
- Qixin Wang, The Hong Kong Polytechnic University, Hong Kong
- Xin Wang, Florida Atlantic University, USA
- Ye Yin, University of Florida, USA

- Liang Xiao, Xiamen University, China
- Chi Zhang, University of Science and Technology of China, China
- Wensheng Zhang, Iowa State University, USA

Multimedia, Real-Time Networking, and Network Modeling (MRTM)

- Changho Choi, Cisco Systems, Inc., USA
- Wei Gao, University of Tennessee, USA
- Hong Hou, Texas A&M University, USA
- Turgay Korkmaz, University of Texas at San Antonio, USA
- Ewa Kusmerek, Poznan Supercomputing and Networking Center, Poland
- Sanghwan Lee, Kookmin University, South Korea
- Wonjun Lee, Korea University, South Korea
- Jia Liu, Ohio State University, USA
- Kenneth Mitchell, University of Missouri - Kansas City, USA
- Srihari Nelakuditi, University of South Carolina, USA
- Seung-Jong Park, Louisiana State University, USA
- Yi Qian, University of Nebraska - Lincoln, USA
- Caterina Scoglio, Kansas State University, USA
- Sachin Shetty, Tennessee State University, USA
- Sejun Song, Texas A&M University, College Station, USA
- Yang Song, IBM Research, USA
- Vijay Subramanian, Northwestern University, USA
- Kaiqi Xiong, Rochester Institute of Technology, USA
- Yibo Xue, Tsinghua University, China
- Hui Zang, Sprint-Nextel Corp., USA

Network Architectures and Clean-Slate Designs (NACSD)

- Hitoshi Asaeda, National Institute of Information and Communications Technology (NICT), Japan
- Jun Bi, Tsinghua University, China
- Justin Cappos, Polytechnic Institute of New York University, USA
- Paul Congdon, University of California, Davis, USA
- Zongming Fei, University of Kentucky, USA
- James Griffioen, University of Kentucky, USA
- Yan Luo, University of Massachusetts Lowell, USA
- Christos Papadopoulos, Colorado State University, USA
- Colin Perkins, University of Glasgow, Scotland

- George Polyzos, Athens University of Economics and Business, Greece
- Leon Poutievski, Google
- Gwendal Simon, Institut Telecom - Telecom Bretagne, France
- Vasilios Siris, Athens University of Economics and Business / ICS-FORTH, Greece
- Vic Thomas, BBN Technologies
- Dirk Trossen, University of Cambridge, UK
- Jacobus Van der Merwe, University of Utah, USA
- Lan Wang, University of Memphis, USA
- George Xylomenos, Athens University of Economics and Business, Greece

Network Algorithms and Performance Evaluations (NAPE)

- Urtzi Ayesta, BCAM - Basque Center for Applied Mathematics, Spain
- Loc Bui, Tan Tao University, Vietnam
- Niklas Carlsson, Linköping University, Sweden
- Giuliano Casale, Imperial College London, UK
- Lydia Chen, IBM Zurich Research Laboratory, Switzerland
- Xiaowen Chu, Hong Kong Baptist University, Hong Kong
- Ruben Cuevas Rumin, Universidad Carlos III de Madrid, Spain
- Mehrdad Dianati, University of Surrey, UK
- Qiang Duan, The Pennsylvania State University, USA
- Shengli Fu, University of North Texas, USA
- Majid Ghaderi, University of Calgary, Canada
- Paolo Giaccone, Politecnico di Torino, Italy
- Javier Gomez, National University of Mexico, Mexico
- Ilias Iliadis, IBM Zurich Research Laboratory, Switzerland
- Wenzhong Li, Nanjing University, China
- Aniket Mahanti, University of Auckland, Australia
- Patrick Maillé, Telecom Bretagne, France
- Jim Martin, Clemson, USA
- Marco Mellia, Politecnico di Torino, Italy
- Hassan Moradi, Qualcomm Inc., USA
- Jogesh K. Muppala, Hong Kong University of Science and Technology, Hong Kong
- Zhipeng Ouyang, OPNet, USA
- Ioannis Psaras, University College London, UK
- Philippe Robert, INRIA, France
- Xu Shao, Institute for Infocomm Research, Singapore

- Alex Sprintson, Texas A&M University, USA
- David Starobinski, Boston University, USA
- Ke Xu, Tsinghua University, China
- Peng Yang, University of Nebraska - Lincoln, USA
- Chuan Yue, University of Colorado Colorado Springs, USA

Scalable, Reliable, and Energy-Efficient Networks (SREN)

- Jose Maria Alcaraz Calero, Universidad de Valencia, Spain
- Vangelis Angelakis, Linköping University, Sweden
- Yury Audzevich, University of Cambridge, UK
- Cosimo Anglano, Universita' del Piemonte Orientale, Italy
- Marco Canini, TU-Berlin / T-Labs, Germany
- Eduardo Cerqueira, Federal University of Para, Portugal
- Piotr Cholda, AGH University of Science and Technology, Poland
- Yu Dong, IBM
- Michael Einhaus, Panasonic R&D Center, Germany
- Nelson L. S. da Fonseca, State University of Campinas, Brazil
- Saurabh Garg, The University of Melbourne, Australia
- Daniel Gmach, HP Labs, USA
- Zhiyi Huang, University of Otago, New Zealand
- Jussi Kangasharju, University of Helsinki, Finland
- Lukas Kencl, Czech Technical University in Prague, Czech Republic
- Takashi Kurimoto, NTT, Japan
- Alexander Markhasin, Siberian State University of Telecommunications and Information Science, Russia
- Pietro Manzoni, Universidad Politécnica de Valencia, Spain
- Cesar Melo, Federal University of Amazonas, Brazil
- Bruce Nordman, Lawrence Berkeley National Laboratory, USA
- Michele Pagano, University of Pisa, Italy
- Joel Sommers, Colgate University, University
- Dan Keun Sung, Korea Advanced Institute of Science and Technology, South Korea
- Petia Todorova, Fraunhofer-FOKUS, Germany
- Zartash Uzmi, Lahore University of Management Sciences, Pakistan
- Joerg Widmer, Institute IMDEA Networks, Spain
- Steven Wright, AT&T
- Beichuan Zhang, University of Arizona, USA
- Dong Zhang, Broadcom

Streaming and Content Distribution

Networking (SCDN)

- Surendar Chandra, FX Palo Alto Lab, USA
- Lei Guo, The Ohio State University, USA
- Fei Li, George Mason University, USA
- Wenzhong Li, Nanjing University, China
- Hang Liu, InterDigital Communications
- Lei Liu, Vuclip Inc.
- Yong Liu, Polytechnic Institute of NYU, USA
- Wei Tsang Ooi, National University of Singapore, Singapore
- Subhabrata Sen, AT&T Labs - Research
- Enhua Tan, LinkedIn
- Matteo Varvello, Bell Labs, Alcatel-Lucent
- Yonggang Wen, Nanyang Technological University, China
- Yanyong Zhang, Rutgers University, USA
- Roger Zimmermann, National University of Singapore, Singapore
- Michael Zink, University of Massachusetts Amherst, USA
- Xiaojun Hei, Huazhong University of Science and Technology, China
- Di Wu, Sun Yat-Sen University, China

Sensor Networks, Embedded Systems, and Pervasive Computing (SEP)

- Oliver Amft, TU Eindhoven, The Netherlands
- Habib M. Ammari, University of Michigan-Dearborn, USA
- Raheem Beyah, Georgia Institute of Technology, USA
- Hao Che, University of Texas at Arlington, USA
- Tingting Chen, Oklahoma State University, USA
- Chun Tung Chou, University of New South Wales, Australia
- Junzhao Du, Xidian University, China
- Stefan Dulman, Delft University of Technology, The Netherlands
- Marco Di Felice, University of Bologna, Italy
- Raghu Ganti, IBM T J Watson Research Center, USA
- Omprakash Gnawali, University of Houston, USA
- Zonghua Gu, Zhejiang University, China
- Tao Gu, University of Southern Denmark, Denmark
- Yu Gu, Singapore University of Technology and Design, Singapore
- Paul Havinga, University of Twente, The Netherlands
- Salil Kanhere, University of New South Wales, Australia

- Seng-Yong Lau, National Taiwan University, Taiwan
- Hyunyoung Lee, Texas A&M University, USA
- Ethiopia Nigussie, University of Turku, Finland
- Mo Li, Nanyang Technological University, Singapore
- Shan Lin, Temple University, USA
- Jun Luo, Nanyang Technological University, Singapore
- Qian Lv, Western Digital, USA
- Alan Marchiori, United Technologies Research Center, USA
- Manki Min, South Dakota State University, USA
- Qinru Qiu, Syracuse University, USA
- Bo Sheng, University of Massachusetts Boston, USA
- Shensheng Tang, Missouri Western State University, USA
- Haodong Wang, Cleveland State University, USA
- Tim Wark, CSIRO, Australia
- Hongyi Wu, University of Louisiana at Lafayette, USA
- Yanwei Wu, Western Oregon University, USA
- David K. Y. Yau, Purdue University, USA
- Ziguo Zhong, University of Nebraska - Lincoln, USA
- Gang Zhou, College of William and Mary, USA
- Ting Zhu, State University of New York at Binghamton, USA
- Hongwei Zhang, Wayne State University, USA

Security, Privacy, and Trust (SPT)

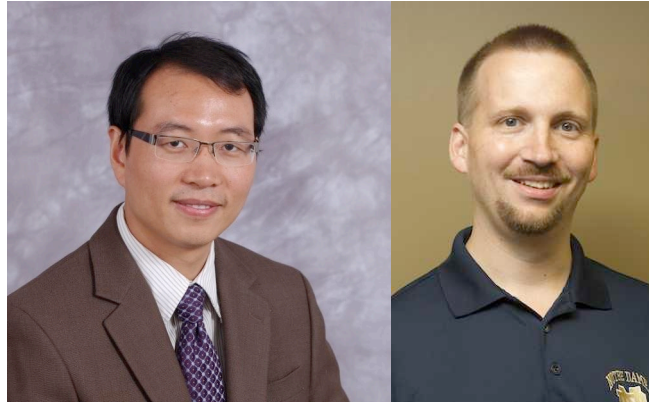
- Gergely Acs, INRIA Grenoble, France
- Erik-Oliver Blass, Northeastern University, USA
- Jens-Matthias Bohli, NEC Laboratories Europe, Germany
- Yu Chen, SUNY-Binghamton, USA
- Mauro Conti, University of Padua, Italy
- Vanesa Daza Fernandez, University of Padua, Italy
- Emiliano De Cristofaro, University of California, Irvine, USA
- Roberto Di Pietro, Roma Tre University of Rome, Italy
- Yingfei Dong, University of Hawaii, USA
- Zhenhai Duan, Florida State University, USA
- Csilla Farkas, University of South Carolina, USA
- Zhuo Hao, University of Science and Technology of China, P.R. China
- Corrado Frederici, University of Bologna, Italy
- Ana Isabel González-Tablas Ferreres, Universidad Carlos III de Madrid, Spain

- Katerina Goseva-Popstojanova, West Virginia University, USA
- Keesook Han, Air Force Research Laboratory, USA
- Tamás Holczér, Budapest University of Technology and Economics, Hungary
- Chin-Tser Huang, University of South Carolina, USA
- Peter Langendoerfer, IHP Microelectronics, Germany
- Feng Li, Indiana University-Purdue University, Indianapolis, USA
- Flavio Lombardi, University di Roma Tre, Italy
- Javier Lopez-Munoz, University of Malaga, Spain
- Di Ma, University of Michigan-Dearborn, USA
- Mohammad Hossein Manshaei, EPFL, Switzerland
- Vashek Matyás, Masaryk University, Czech Republic
- Refik Molva, Institut Eurecom, France
- Indrajit Ray, Colorado State University, USA
- Kui Ren, Illinois Institute of Technology, USA
- Claudio Soriente, Universidad Politécnica de Madrid, Spain
- Chiu Tan, Temple University, USA
- Juan Tapiador, Universidad Carlos III de Madrid, Spain
- Fan Wu, Shanghai Jiao Tong University, P.R. China
- Kuai Xu, Arizona State University, USA
- Shanchieh Yang, Rochester Institute of Technology, USA
- Fan Ye, IBM T. J. Watson Research Center, USA

Additional Reviewers

- Haleh Amintoosi, University of New South Wales, Australia
- Pierluigi Casale, Eindhoven University of Technology, The Netherlands
- Deji Chen, Emerson Process Management, USA
- Yu Chen, Wayne State University, USA
- Lingkun Fu, Zhejiang University, P.R. China
- Sang Shin Jung, Georgia Institute of Technology, USA
- Ramalingam K. Chandrasekar, Georgia Institute of Technology, USA
- Xiaohui Liu, Wayne State University, USA
- Hannan Ma, UTK, USA
- David Nguyen, College of William and Mary, USA
- Hangwei Qian, Case Western Reserve University, USA
- Andreas Reinhardt, University of New South Wales, Australia
- Yuanchao Shu, Zhejiang University, P.R. China
- Venkatachalam Subramanian, Georgia Institute of Technology, USA
- Yuelong Tian, Zhejiang University, P.R. China
- Yuehua Wang, Wayne State University, USA
- Jinhong Wu, Samsung Information Systems America, USA

Message from the Workshop General Chairs



Welcome to the ICCCN 2013 Workshops! As an integral part of the main conference, the ICCCN workshop program provides international forums for scientists and engineers from academia and industry 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 five workshops covering a variety of topics in the area of computer communications and networks. These workshops are:

- WiMAN – Wireless Mesh and Ad Hoc Networks
- PMECT – Performance Modeling and Evaluation of Computer and Telecommunication Networks
- MobiPST – Privacy, Security and Trust in Mobile and Wireless Systems
- ContextQoS – Context-Aware QoS Provisioning and Management for Emerging Networks, Applications and Services
- 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 effort. 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 and invited speakers for contributing their work to these workshops. Many thanks are due to ICCCN General Chair Prof. George Rouskas and the ICCCN Program Co-Chairs Dr. Fan Zhai and Prof. Christian Poellabauer for their support and help on numerous aspects of the workshops. We also thank Publicity Chair Prof. Liqiang Zhang for his support and dedication. Finally, we would like to 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.

Kewei Sha, *Oklahoma City University, USA*

Aaron Striegel, *University of Notre Dame, USA*

ICCCN 2013 Workshop Co-Chairs

Technical Program Overview

Tuesday, July 30th, 2013 – Workshops

Time	Room Independence A	Room Independence C	Room Arawak A/B
9:00-10:15	ContextQoS 1: Keynote		WiMAN 1: Keynote
10:15-10:45	Coffee Break	Coffee Break	Coffee Break
10:45-12:15	ContextQoS 2 Adaptive QoS Provisioning	SN Sensor Networks	WiMAN 2 Wireless and Mobile Ad-hoc Networks
12:15-13:30	Lunch	Lunch	Lunch
13:30-15:00	ContextQoS 3 Context-aware QoS for Networking Applications	MobiPST Mobile Privacy & Security	WiMAN 3 Optical, Sensor, and Application- Oriented Networks
15:00-15:30	Coffee Break	Coffee Break	Coffee Break
15:30-17:30	PMECT Networked System Performance		WiMAN 4 Mesh Networks, Wireless LANs, and Clouds

Wednesday, July 31st, 2013 – Main Conference

Time	Independence B	Independence A	Independence C	Arawak A/B
8:30-8:50	Opening Remarks			
8:50-10:15	Keynote I: Placing Network Coding in the Network Speaker: Muriel Médard, MIT, USA			
10:15-10:45	Coffee Break	Coffee Break	Coffee Break	Coffee Break
10:45-12:15	Invited Paper Session -I	Routing and Network Services (NACSD I)	Transport Protocols (NAPE I)	Cloud Technology and Applications (GCC I)
12:15-13:30	Lunch	Lunch	Lunch	Lunch
13:30-15:00	Panel Discussion I: Data Center Networks Chair: Malathi Veeraraghavan, University of Virginia, USA			
15:00-15:30	Networking Break	Networking Break	Networking Break	Networking Break
15:30-17:00	WLAN and Mesh Networks (LAMN I)	Information- Centric Networks and Security (NACSD II)	Packet Scheduling (NAPE II)	High Performance Networks (GCC II)
18:00-20:30	Conference Reception (Pool Deck)	Conference Reception	Conference Reception	Conference Reception

Thursday, August 1st - Main Conference

Time	Independence B	Independence A	Independence C	Arawak A/B
8:50-10:15	Keynote II: Locating Mobile Devices Indoors: Opportunities, Theory, and Practice Speaker: Jack Brassil, Hewlett-Packard Laboratories, USA			
10:15-10:45	Coffee Break	Coffee Break	Coffee Break	Coffee Break
10:45-12:15	Invited Paper Session -II	Routing and Cross-Layer Design (SEP I)	Internet, Network Protocols, and Performance (NAPE III)	Cognitive Radio Networks (CCHN I)
12:15-13:30	Lunch	Lunch	Lunch	Lunch
13:30-15:00	Panel Discussion II: Trends in Network Architecture Chair: Tilman Wolf, University of Massachusetts, USA			
15:00-15:30	Networking Break	Networking Break	Networking Break	Networking Break
15:30-17:00	RFID and Ad Hoc Networks (LAMN II)	Algorithm and Middleware (SEP II)	P2P and Content Distribution (NAPE IV)	Resource Allocation (CCHN II)
17:00-17:15	Coffee Break	Coffee Break	Coffee Break	Coffee Break
17:15-18:45	DTN and Miscellaneous Topics (LAMN III)	RFID, M2M Communications, and Social Sensing (SEP III+MCCN)	Multimedia and Networking (MRTM I+MCCN)	Physical Layer, Cellular Networks and Cognitive Radios (CCHN III)
19:00-22:00	Dinner/Banquet/Awards (Western Beach)	Dinner/Banquet/Awards	Dinner/Banquet/Awards	Dinner/Banquet/Awards

Friday, August 2nd - Main Conference

Time	Independence B	Independence A	Independence C	Arawak A/B
8:50-10:15	Keynote III: Next Steps Towards Internet-Optical Service Convergence: A Network Management Perspective Speaker: Dr. Admela Jukan, Technische Universität Braunschweig, Germany			
10:15-10:45	Coffee Break	Coffee Break	Coffee Break	Coffee Break
10:45-12:15	Invited Paper Session -III	Security, Privacy, and Trust I (SPT I)	Streaming and Content Distribution Networking (SCDN I)	
12:15-13:30	Lunch	Lunch	Lunch	Lunch
13:30-15:00	Panel Discussion III: SDN and Network Virtualization Chair: Ilya Baldin, RENCI			
15:00-15:30	Networking Break	Networking Break	Networking Break	Networking Break
	Scalable, Reliable, and Energy-Efficient Networks (SREN I)	Security, Privacy, and Trust II (SPT II)	NACSD Tutorial: GENI	
17:00-17:15	Concluding Remarks			

Technical Program

Workshops Tuesday, July 30th

9:00—10:15

ContextQoS 1: Keynote

Room: Independence A
Title: “Performance Challenges in Networked Mobile Robot Systems”
Speaker: Dr. Patrick-Benjamin Bök, TU Dortmund University, Germany
Chair: Kewei Sha, Oklahoma City University, USA

WiMAN 1: Keynote

Room: Arawak A/B
Title: “Fast and Accurate Indoor Localization”
Speaker: Duc Tran, University of Massachusetts Boston, USA
Chair: Habib M. Ammari, University of Michigan-Dearborn, USA

10:45—12:15

ContextQoS 2: Adaptive QoS Provisioning

Room: Independence A
Chair: Dr. Patrick-Benjamin Bök (TU Dortmund University, Germany)

Delays QoS for Bandwidth Provisioning

Hengky Susanto (University of Massachusetts Lowell, USA);
Byung-Guk Kim (University of Massachusetts at Lowell, USA)

Dynamic Link Classification based on Neuronal Networks for QoS Enabled Access to Limited Resources

Sebastian Subik (TU Dortmund University, Germany);
Dennis Kaulbars (TU Dortmund, Germany); Patrick-Benjamin Bök (TU Dortmund, Germany); Christian Wietfeld (TU Dortmund University, Germany)

Elastic Network Design and Adaptive Flow Placement in Software Defined Networks

Julius Mueller (Technische Universität Berlin, Germany);
Andreas Wierz (Technische Universität Berlin, Germany);

Thomas Magedanz (TU Berlin / Fraunhofer FOKUS, Germany)

SN : Sensor Networks

Room: Independence C
Chair: Carol Niznik (NW Systems, USA)

Energy and Accuracy Trade-Offs in Accelerometry-Based Activity Recognition

Ning Wang (University of Southampton, United Kingdom);
Geoff V Merrett (University of Southampton, United Kingdom); Robert G Maunder (University of Southampton, United Kingdom); Alex Rogers (University of Southampton, United Kingdom)

Energy Efficient Wireless Vehicular-Guided Actuator Network

Imene Boudellioua (KAUST, Saudi Arabia); Basem Shihada (KAUST, Saudi Arabia)

Games of Timing Theoretical Protocol Development and Performance Analysis for Missile Defense

Carol Niznik (NW Systems, USA)

Opportunistic Direct Interconnection between Co-Located Wireless Sensor Networks

Teng Jiang (University of Southampton, United Kingdom);
Geoff V Merrett (University of Southampton, United Kingdom); Nick Harris (University of Southampton, United Kingdom)

WiMAN 2: Wireless and Mobile Ad-hoc Networks

Room: Arawak A/B
Chair: Duc Tran (University of Massachusetts Boston, USA)

Throughput Performance Analysis for Hybrid Wireless Networks over Fading Channels

Xin Wang (University of Texas at Arlington, USA); Qilian Liang (University of Texas at Arlington, USA)

ERMINE: Enabling Range Queries in MANET with Information-Centric Networking

Matteo Varvello (Bell Labs, Alcatel-Lucent, USA); Jairo O Esteban (Bell Labs, Lucent Technologies, USA); Mark Smith (Alcatel-Lucent, USA); Lloyd Greenwald (LGS Innovations /

Bell Labs, USA); Yang Guo (Bell Labs, Alcatel-Lucent, USA); Mary R Schurgot (LGS Bell Labs Innovations, USA)

DHTs for cluster-based ad-hoc networks employing multi-hop relaying

Bilal Zafar (Ilmenau University of Technology, Germany); Roman Alieiev (Ilmenau University of Technology, Germany); Liz Ribe-Baumann (Ilmenau University of Technology, Germany); Martin Haardt (Ilmenau University of Technology, Germany)

13:30—15:30

ContextQoS 3: Context-aware QoS for Networking Applications

Room: Independence A

Chair: Kalman Graffi (Universität Düsseldorf, Germany)

Continuous Gossip-based Aggregation through Dynamic Information Aging

Vitaliy Rapp (Technische Universität Darmstadt, Germany); Kalman Graffi (Universität Düsseldorf, Germany)

Architectural Blueprints of a Unified Sensing Platform for the Internet of Things

Vangelis Gazis (AGT Group (R&D) GmbH, Germany); Panayotis Kikiras (AGT Group (R&D) GmbH, Germany); Giorgos Mazarakis (AGT Group (R&D) GmbH, Germany); Nikolaos Frangiadakis (AGT Group (R&D) GmbH, Germany); Kostantinos Sasloglou (AGT Group (R&D) GmbH, Germany); Andreas Merentitis (AGT Group (R&D) GmbH, Germany); Kostas Mathioudakis (AGT Group (R&D) GmbH, Germany)

Context as a Service integrated service enabler integrated in the clouds

Oscar Rodríguez Rocha (Politecnico di Torino, Italy); Boris Moltchanov (Telecom Italia, Italy)

MobiPST: Mobile Privacy & Security

Room: Independence C

Chair: Geoff V Merrett (University of Southampton, United Kingdom)

Preserving Data Query Privacy in Mobile Mashups through Mobile Cloud Computing

Rodney Owens (UNCC, USA); Weichao Wang (University of North Carolina at Charlotte, USA)

Claudio A Ardagna (Università degli Studi di Milano, Italy); Mauro Conti (University of Padua, Italy); Mario Leone (University of Padua, Italy); Julinda Stefa (Sapienza University of Rome, Italy)

Privacy Preserving Computations using Implicit Security
Abhishek Parakh (University of Nebraska at Omaha, USA); William Mahoney (University of Nebraska at Omaha, USA)

Secure RFID Authentication Protocol with Key Updating Technique

Gul N. Khan (Ryerson University, Canada); Guangyu Zhu (Ryerson University, USA)

SCAPACH: Scalable Password-Changing Protocol for Smart Grid Device Authentication

Rehana Tabassum (University of Illinois at Urbana-Champaign, USA); Klara Nahrstedt (University of Illinois, USA); Edmond Rogers (IT TECHNICAL ASSOCIATE, USA); King-Shan Lui (The University of Hong Kong, Hong Kong)

WiMAN 3: Optical, Sensor, and Application-Oriented Networks

Room: Arawak A/B

Chair: Qilian Liang (The University of Texas at Arlington)

Hybrid Multicast Traffic Grooming in Transparent Optical Networks with Physical Layer Impairments

Tania Panayiotou (University of Cyprus, Cyprus); Georgios Ellinas (University of Cyprus, Cyprus); Neo Antoniadis (College of Staten Island, USA)

The Virtual Sensor System

David Yoon (University of Michigan - Dearborn, USA); Mridula Pandit (University of Michigan - Dearborn, USA); Jie Shen (University of Michigan - Dearborn, USA)

eHealth AON (Application-Oriented Networks)

Wei Liu (Georgia Gwinnett College, USA); EK Park (CSU-Chico, USA)

15:30—17:30

PMECT : Networked System Performance

Room: Independence A

Chair: Sebastian Subik (TU Dortmund University, Germany)

Performance Comparison of ENUM Name Servers

Saulo Henrique da Mata (Federal University of Uberlandia, Brazil); Johann M. H. Magalhaes (Federal Institute of Triangulo Mineiro, Brazil); Alexandre Cardoso (Federal University of Uberlandia, Brazil); Hélio Alexandre Carvalho (CPqD, Brazil); Paulo R. Guardieiro (Federal University of Uberlandia, Brazil)

An Elitist Polynomial Mutation Operator for improved performance of MOEAs in Computer Networks

Kostas Liagkouras (University of Piraeus, Greece); Kostas Metaxiotis (University of Piraeus, Greece)

Upper bounds on Unsuccessful Transmission Rate in Persistent and Non-Persistent CSMA Protocols

Dariusz Koscielnik (AGH University of Science and Technology, Poland); Marek Miskowicz (AGH University of Science and Technology, Poland); Jakub Szyduczynski (AGH University of Science and Technology, Poland)

Causing Remote Hosts to Renege

Nasif Ekiz (F5 Networks, USA); Paul David Amer (University of Delaware, USA)

A Software-Defined Networking approach for Disaster-Resilient WANs

Kien Nguyen (National Institute of Informatics, Japan); Quang Minh Tran (National Institute of Informatics, Japan); Shigeki Yamada (National Institute of Informatics, Japan)

WiMAN 4: Mesh Networks, Wireless LANs, and Clouds

Room: Arawak A/B

Chair: Wei Liu (Georgia Gwinnett College, USA)

Adaptive Wireless Mesh Networks: Surviving Weather Without Sensing It

Nauman Javed (University of Massachusetts, USA); Eric Lyons (University of Massachusetts Amherst, USA); Michael Zink (University of Massachusetts Amherst, USA); Tilman Wolf (University of Massachusetts, USA)

Save For Later: A Technique for Improving End-to-End Mesh Network Performance

Yingxin Jiang (Amazon, USA); Shu Liu (University of Notre Dame, USA); Aaron D Striegel (University of Notre Dame, USA)

Re-thinking 802.11 Rate Selection In The Face of Non-Altruistic Behavior

Andrew Blaich (University of Notre Dame, USA); Shu Liu (University of Notre Dame, USA); Aaron D Striegel (University of Notre Dame, USA)

QoS-Aware Service Selection in Geographically Distributed Clouds

Xin Li (Nanjing University, P.R. China); Jie Wu (Temple University, USA); Sanglu Lu (Nanjing University, P.R. China)

Main Conference

Wednesday, July 31st

8:30—8:50

Opening remarks

8:50—10:15

Keynote I

Room: Independence B

Title: Placing network coding in the network

Speaker: Muriel Médard, MIT, USA

Chair: George Rouskas, North Carolina State University, USA

10:45—12:15

Invited paper session I

Room: Independence B

Chair: Aaron Striegel (University of Notre Dame, USA)

ROVER: Route Origin Verification Using DNS

Joseph Gersch (Secure64 Software Corporation, USA); Daniel Massey (Colorado State University, USA)

Stochastic Pre-Classification for Software Defined Firewalls

Pritha Ghoshal (Texas A&M University, USA); Christopher Jasson Casey (Texas A&M University, USA); Paul V Gratz (Texas A&M University, USA); Alex Sprintson (Texas A&M University, USA)

Decoupling Policy from Routing with Software Defined Interdomain Management

Peter Thai (Drexel University, USA); Jaudelice C. de Oliveira (Drexel University, USA)

Routing and Network Services (NACSD I)

Room: Independence A

Chair: Ersin Uzun (PARC, USA)

Service Instantiation in an Internet with Choices

Abhishek Dwaraki (University of Massachusetts, USA);
Tilman Wolf (University of Massachusetts, USA)

Network Hypervisors: Managing the Emerging SDN Chaos

Shufeng Huang (University of Kentucky, USA); James Griffioen (University of Kentucky, USA)

OpenADN: A Case for Open Application Delivery Networking

Subharthi Paul (Washington University in St. Louis, USA); Raj Jain (Washington University in St. Louis, USA); Jianli Pan (Washington University in Saint Louis, USA); Jayaraman Iyer (Cisco Systems, USA); David R Oran (Cisco Systems, USA)

Intra-Domain Pathlet Routing

Marco Chiesa (Roma Tre University, Italy); Gabriele Lospoto (Roma Tre University, Italy); Massimo Rimondini (Roma Tre University, Italy); Giuseppe Di Battista (Roma Tre University, Italy)

Transport Protocols (NAPE I)

Room: Independence C

Chair: Dan Ionescu (University of Ottawa, Canada)

Transparent Network Protocol Testing and Evaluation

Xiaoshuang Wang (Binghamton University, USA); Sunil Agham (Binghamton University, USA); Vikram P. Munishwar (Binghamton University, USA); Vaibhav Nipunage (Binghamton University, USA); Shailendra Singh (University Of California, Riverside, USA); Kartik Gopalan (Binghamton University, USA)

ST-XCP: A Stable XCP Protocol

Zhiqiang Shi (Institute of Information Engineering, Chinese Academy of Sciences, P.R. China); Dan Ionescu (University of Ottawa, Canada); Dongli Zhang (University of Ottawa, Canada)

A Scheduler for Multipath TCP

Fan Yang (University of Delaware, USA); Paul David Amer (University of Delaware, USA)

Priority-Based Deadline-Aware Datacenter TCP

Zhengwei Zhao (Chinese Academy of Sciences, P.R. China); Jingping Bi (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Zhixiong Jiang (Information Technology Center, China National Petroleum Corporation, P.R. China); Chunyang Lu (Information Technology Center, China National Petroleum Corporation, P.R. China); Yushan Cai (Information Technology Center, China National Petroleum Corporation, P.R. China)

Cloud Technology and Applications (GCC I)

Room: Arawak (A/B)

Chair: Ron Brightwell (Sandia National Labs, USA)

An Approach for Privacy Enhanced Pixel-Level Image Processing in Hybrid Clouds

Arash Nourian (McGill University, Canada); Muthucumar Maheswaran (McGill University, Canada)

VeloZ: A Charging Policy Specification Language for Infrastructure Clouds

Airton Pereira (Federal University of Pernambuco, Brazil); Paulo Neto (UFPE, Brazil); Vinicius Cardoso Garcia (Federal University of Pernambuco, Brazil); Fernando Trinta (Federal University of Ceara, Brazil); Rodrigo Assad (C.E.S.A.R., Brazil)

Evaluation of Cloud-RAID: A Secure and Reliable Storage Above the Clouds

Maxim Schnjakin (Hasso-Plattner Institute, Germany); Christoph Meinel (Hasso-Plattner Institute, University of Potsdam, Germany)

OCNI – Open Cloud Networking Interface

Houssemed Medhioub (Institut Mines-Telecom, France); Bilel Msekni (Institut Mines-Telecom, France); Djamel Zeglache (Institut Mines-Telecom, France)

13:30–15:00

Panel Discussion I

Room: Independence B

Topic: Data Center Networks

Moderator: Malathi Veeraraghavan, University of Virginia, USA

Panelists:

Guohui Wang, IBM Research, USA
Sudipta Sengupta, Microsoft Research, USA
Paulie Germano, Google Research, USA
Krishna Kant, George Mason University and NSF, USA

15:30—17:00

WLAN and Mesh Networks (LAMN I)

Room: Independence B

Chair: Haiying Shen (Clemson University, USA)

Adaptive Backoff Algorithm for IEEE 802.11 DCF under MPR Wireless Channels

Arun I B (Indian Institute of Technology, Madras, India); Venkatesh T. G (Indian Institute of Technology Madras, India)

On the Performance of the IEEE 802.11 in a Multi-channel Environment

Marcos Fagundes Caetano (University of Brasilia, Brazil); Bruno Lourenço (University of Brasilia, Brazil); Jacir Luiz Bordim (University of Brasilia, Brazil)

Access Points Can Tell More for Wiser Selection

Shibo Xu (Tsinghua University, P.R. China); Fengyuan Ren (Tsinghua University, P.R. China); Yinsheng Xu (Tsinghua University, P.R. China); Chuang Lin (Tsinghua University, P.R. China); Peng Cheng (Tsinghua University, P.R. China)

Channel Requirements for Interference-free Wireless Mesh Networks to Achieve Maximum Throughput

Aizaz U Chaudhry (Carleton University, Canada); John Chinneck (Carleton University, Canada); Roshdy H Hafez (Carleton University, Canada)

Information-Centric Networks and Security (NACSD II)

Room: Independence A

Chair: Christos Papadopoulos (Colorado State University, USA)

A Verification Service Architecture for the Future Internet

Ahmet C Babaoglu (North Carolina State University, USA); Rudra Dutta (North Carolina State University, USA)

An Empirical Study of Receiver-based AIMD Flow-Control Strategies for CCN

Manolis Sifalakis (University of Basel, Switzerland); Stefan Braun (University of Basel, Switzerland); Massimo Monti (University of Basel, Switzerland); Christian F Tschudin (University of Basel, Switzerland)

DoS & DDoS in Named Data Networking

Paolo Gasti (New York Institute of Technology, USA); Gene Tsudik (University of CA, Irvine, USA); Ersin Uzun (PARC, USA); Lixia Zhang (University of California at Los Angeles, USA)

Secure Name Resolution for Identifier-to-Locator Mappings in the Global Internet

Xiruo Liu (Rutgers University, USA); Wade Trappe (WINLAB, Rutgers University, USA); Yanyong Zhang (Rutgers University, USA)

Packet Scheduling (NAPE II)

Room: Independence C

Chair: Seung-Jong Park (Louisiana State University, USA)

Providing Near-Optimal Fair-Queueing Guarantees at Round-Robin Amortized Cost

Paolo Valente (University of Modena and Reggio Emilia, Italy)

AFCD: An Approximated-Fair and Controlled-Delay Queuing for High Speed Networks

Lin Xue (Louisiana State University, USA); Suman Kumar (Troy University, USA); Cheng Cui (Louisiana State University, USA); Praveenkumar Kondikoppa (Louisiana State University, USA); Chui-hui Chiu (Louisiana State University, USA); Seung-Jong Park (Louisiana State University, USA)

Deriving Pareto-optimal performance bounds for 1 and 2-relay wireless networks

Qi Wang (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Katia Jaffrès-Runser (University of Toulouse, France); Claire Goursaud (INSA-Lyon, France); Jun Li (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Yi Sun (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Jean-Marie Gorce (INSA-Lyon, France)

Modular EGS Architectures for Optical Interconnections

Dario G. Garao (Politecnico di Milano, Italy); Guido Maier (Politecnico di Milano, Italy); Achille Pattavina (Politecnico di Milano, Italy)

High Performance Networks (GCC II)

Room: Arawak (A/B)

Chair: Louise E. Moser (University of California, Santa Barbara, USA)

Location-based Multicast in Wireless Data Center Network

Chunpeng Liao (Tsinghua University, China); Ying Liu (Tsinghua University, China); Yong Cui (Tsinghua University, China); Xin Wang (Stony Brook University, USA)

Seamless Migration of Virtual Machines Across Networks

Umar Kalim (Virginia Tech, USA); Mark K. Gardner (Virginia Tech, USA); Eric Brown (Virginia Tech, USA); Wu-chun Feng (Virginia Tech, USA)

Accelerating Allreduce Operation: A Switch-based Solution

NongDa Hu (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Dawei Wang (Researcher, USA); Zheng Cao (Chinese Academy of Sciences, P.R. China); Xuejun An (Institute of Computing Technology, CAS, P.R. China); Ninghui Sun (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China)

Thursday, August 1st

8:50 – 10:15

Keynote II

Room: Independence B

Title: Locating Mobile Devices Indoors: Opportunities, Theory, and Practice

Speaker: Jack Brassil, Hewlett-Packard Laboratories, USA

Chair: George Rouskas, North Carolina State University, USA

10:45–12:15

Invited Paper Session -II

Room: Independence B

Chair: Kewei Sha (Oklahoma City University, USA)

Decima: Virtualized I/O Management in 3D Teleimmersive Networks

Raoul Rivas (University of Illinois at Urbana-Champaign, USA); Md A Arefin (University of Illinois at Urbana-Champaign, USA); Klara Nahrstedt (University of Illinois at Urbana-Champaign, USA)

Multi path PERT

Ankit Singh (Amazon, USA); Narasimha Reddy (Texas A & M University, USA)

Diverse Infrastructure and Architecture for Datacentre and Cloud Resilience

James P.G. Sterbenz (The University of Kansas and Lancaster University, USA) Prasad Kulkarni (The University of Kansas, USA)

Budget Minimized Resource Allocation and Task Scheduling in Distributed Grid/Clouds

Pan Yi (UNL, USA); Hui Ding (Beijing University of Posts and Telecommunications, USA); Byrav Ramamurthy (University of Nebraska-Lincoln, USA)

Routing and Cross-Layer Design (SEP I)

Room: Independence A

Chair: Donghyun Kim (North Carolina Central University, USA)

Avoiding Heterogeneous Interference through Dynamic Routing in Wireless Sensor Networks

Hou Meng (Tsinghua University, P.R. China); Fengyuan Ren (Tsinghua University, P.R. China)

Spreading the Load in a Tree Type Routing Structure

Declan Delaney (University College Dublin, Ireland); Lina Xu (University College Dublin, Ireland); Gregory O'Hare (University College Dublin, Ireland)

Reliability Analysis of Wireless Real-Time Control Networks

Peter Horvath (Vanderbilt University, USA); Mark Yampolskiy (Vanderbilt University, USA); Yuan Xue (Vanderbilt University, USA); Xenofon Koutsoukos (Vanderbilt University, USA); Janos Sztipanovits

Controlled Path Traversal for a Mobile Element in Wireless Sensor Networks

Baris Tas (University of Texas at San Antonio, USA); Ali Saman Tosun (University of Texas at San Antonio, USA)

Internet, Network Protocols, and Performance (NAPE III)

Room: Independence C

Chair: Paolo Valente (University of Modena and Reggio Emilia, Italy)

Refining IP-to-AS Mappings for AS-level Traceroute

Baobao Zhang (Tsinghua University, P.R. China); Jun Bi (Tsinghua University, P.R. China); Yangyang Wang (Tsinghua University, P.R. China); Yu Zhang (Harbin Institute of Technology, P.R. China); Jianping Wu (Tsinghua University, P.R. China)

LMB: Towards Sufficient Utilization of Address and Port Resource against IPv4 Exhaustion

Peng Wu (Tsinghua University, P.R. China); Yong Cui (Tsinghua University, P.R. China); Jianping Wu (Tsinghua University, P.R. China); Heyi Tang (Tsinghua University, P.R. China)

Reachability Graph Based Hierarchical Test Generation for Network Protocols Modeled as Parallel Finite State Machines

Jiangyuan Yao (Tsinghua University, P.R. China); Zhiliang Wang (Tsinghua University, P.R. China); Xia Yin (Tsinghua University, P.R. China); Xingang Shi (Tsinghua University, P.R. China); Jianping Wu (Tsinghua University, P.R. China)

An Optimal Algorithm for Time-slot Assignment in SS/TDMA Satellite Systems

Xili Wan (University of Missouri Kansas City, USA); Feng Shan (University of Missouri Kansas City, USA); Xiaojun Shen (University of Missouri-Kansas City, USA)

Cognitive Radio Networks (CCHN I)

Room: Arawak (A/B)

Chair: Xiaojun Cao (Georgia State University, Atlanta, GA, USA)

Channel Detecting Jamming Attacks against Jump-Stay Based Channel Hopping Rendezvous Algorithms for Cognitive Radio Networks

Young-Hyun Oh (North Carolina State University, USA); David Thuente (North Carolina State University, USA)

Distributed Interference Alignment in Cognitive Radio Networks

Yi Xu (Auburn University, USA); Shiwen Mao (Auburn University, USA)

A Reserve Price Auction for Spectrum Sharing with Heterogeneous Channels

Mehrdad Khaledi (Rensselaer Polytechnic Institute, USA); Alhussein A. Abouzeid (Rensselaer Polytechnic Institute, USA)

DORA: Distributed Cognitive Random Access of Unslotted Markovian Channels under Tight Collision Constraints

Liqiang Zhang (Indiana University South Bend, USA)

13:30—15:00

Panel Discussion II

Room: Independence B

Topic: Trends in Network Architecture

Moderator: Tilman Wolf, University of Massachusetts, Amherst, USA

Panelists:

Rudra Dutta, North Carolina State University, USA
Christos Papadopoulos, Colorado State University, USA
Dipankar Raychaudhuri, Rutgers University, USA
Dah Ming Chiu, The Chinese University, Hong Kong

15:30—17:00

RFID and Ad Hoc Networks (LAMN II)

Room: Independence B

Chair: Wei Lou (The Hong Kong Polytechnic University, Hong Kong)

Steady Status Study of Distributed Data Caching in Ad Hoc Networks

Julinda Taylor (Wichita State University, USA); Bin Tang (Azusa Pacific University, USA); Mehmet Yildirim (Wichita State University, USA)

Reliable Closed-loop Control in Medical Cyber-Physical Systems over Wireless Ad-hoc Networks

Tao Li (Hong Kong Polytechnic Univ., HongKong); and
Jiannong Cao (Hong Kong Polytechnic Univ.,
HongKong)

***A Small Step for Hardware, A Giant Leap for
VANET Security***

Lingbo Wei (Shanghai Jiaotong University, China); Chi
Zhang (University of Science and Technology of China,
China); Kefei Chen (Shanghai Jiaotong University,
China); Bin Liu (University of Science and Technology
of China, China); Jinyuan Sun (University of Tennessee-
Knoxville, USA)

***A Fast Approach to Unknown Tag
Identification in Large Scale RFID Systems***

Xiulong Liu (Dalian University of Technology, P.R.
China); Keqiu Li (Dalian University of Technology, P.R.
China); Yanming Shen (Dalian University of
Technology, Dalian, P.R. China); Geyong Min
(University of Bradford, United Kingdom); Bin Xiao
(The Hong Kong Polytechnic University, Hong Kong);
Wenyu Qu (Dalian Maritime University, P.R. China)

Algorithm and Middleware (SEP II)

Room: Independence A

Chair: Peter Horvath (Vanderbilt University,
USA)

***Target-temporal Effective-sensing Coverage in
Mission-driven Camera Sensor Networks***

Yi Hong (Renmin University of China, P.R. China);
Donghyun Kim (North Carolina Central University,
USA); Deying Li (Renmin University of China, P.R.
China); Wenping Chen (Renmin University of China,
P.R. China); Alade Tokuta (North Carolina Central
University, USA); Zhiming Ding (Institute of Software,
Chinese Academy of Sciences, P.R. China)

***Using Minimum Mobile Chargers to Keep
Large-scale Wireless Rechargeable Sensor
Networks Running Forever***

Haipeng Dai (Nanjing University & State Key Lab of
Novel Software Technology, P.R. China); Xiaobing Wu
(Nanjing University & State Key Lab of Novel Software
Technology, P.R. China); Lijie Xu (Nanjing University,
P.R. China); Guihai Chen (Shanghai Jiao Tong
University, P.R. China); Shan Lin (Temple University,
USA)

***A Mediation Layer for connecting Data-
Intensive Applications to Reconfigurable Data
Nodes***

Mohamad Jomaa (American University of Beirut,
Lebanon); Khaleel W Mershad (American University of
Beirut, Lebanon); Noor Abbani (American University of
Beirut, Lebanon); Yaman Sharaf Dabbagh (American
University of Beirut, Lebanon); Bashar Romanous
(American University of Beirut, Lebanon); Hassan A.
Artail (American University of Beirut, Lebanon); Mazen
A. R. Saghir (Texas A&M University at Qatar, Qatar);
Hazem Hajj (American University of Beirut, Lebanon);
Haitham Akkary (American University of Beirut,
Lebanon); Mariette Awad (AUB, Lebanon)

***On the Use of Distributed Beamforming to
Increase Base Station Anonymity in Wireless
Sensor Networks***

Jon R. Ward (The Johns Hopkins University, USA);
Mohamed Younis (University of Maryland Baltimore
County, USA)

P2P and Content Distribution (NAPE IV)

Room: Independence C

Chair: Christopher Casey (Texas A&M
University, USA)

***A Social Network Integrated Reputation
System for Cooperative P2P File Sharing***

Kang Chen (Clemson University, USA); Haiying Shen
(Clemson University, USA); Karan Sapra (Clemson
University, USA); Guoxin Liu (Clemson University,
USA)

***Modeling Hierarchical Caches in Content-
Centric Networks***

ZiXiao Jia (Tsinghua University, P.R. China); Peng
Zhang (Tsinghua University, P.R. China); Jiwei Huang
(Tsinghua University, P.R. China); Chuang Lin
(Tsinghua University, P.R. China); John Chi Shing Lui
(Chinese University of Hong Kong, Hong Kong)

Probabilistic Analysis of Message Forwarding

Louise E. Moser (University of California, Santa
Barbara, USA); Michael Melliar-Smith (University of
California, Santa Barbara, USA)

***Performance Model for a Cache Enabled
Content Distribution Framework over MANET***

Yang Guo (Bell Labs, Alcatel-Lucent, USA); Lloyd
Greenwald (LGS Innovations LLC, USA); Mary R
Schurgot (LGS Innovations LLC, USA); Matteo Varvello
(Bell Labs, Alcatel-Lucent, USA)

Resource Allocation (CCHN II)

Room: Arawak (A/B)

Chair: Hui Zang (Sprint, USA)

Resource Allocation in OFDMA Femto Networks

Debalina Ghosh (University of California at Davis, USA); Prasant Mohapatra (University of California, Davis, USA)

Energy-Efficient QoS Provisioning in Random Access Satellite NDMA Schemes

José Vieira (Universidade Nova de Lisboa, Portugal); Francisco Ganhão (Universidade Nova de Lisboa, Portugal); Luis Bernardo (Universidade Nova de Lisboa, Portugal); Rui Dinis (Instituto de Telecomunicacoes, Portugal); Marko Beko (ULHT/UNINOVA, Portugal); Rodolfo Oliveira (Universidade Nova de Lisboa/Uninova, Portugal); Paulo F Pinto (Universidade Nova de Lisboa, Portugal)

Reciprocity and Fairness in Medium Access Control Games

Mahdi Azarafrooz (Stevens Institute Of Technology, USA); Rajarathnam Chandramouli (Stevens Institute of Technology, USA); Koduvayur P Subbalakshmi (Stevens Institute of Technology, USA)

17:15–18:45

DTN and Miscellaneous Topics (LAMN III)

Room: Independence B

Chair: Chi Zhang (University of Science and Technology of China, China)

Energy-efficient Contact Probing in Opportunistic Mobile Networks

Huan Zhou (Zhejiang University, P.R. China); Huanyang Zheng (Temple University, USA); Jie Wu (Temple University, USA); Jiming Chen (Zhejiang University, P.R. China)

Making Nodes Cooperative: A Secure Incentive Mechanism for Message Forwarding in DTNs

Honglong Chen (China University of Petroleum, P.R. China); Wei Lou (The Hong Kong Polytechnic University, Hong Kong)

Social-aware Relay Node Selection in Delay Tolerant Networks

Kaimin Wei (Beihang University, China); Deze Zeng (The University of Aizu, Japan); Song Guo (The University of Aizu, Japan); and Ke Xu (Beihang University, China)

Network coding for multicasting over Rayleigh fading multi access channels

Avi Zanko (Bar-Ilan University, Israel); Amir Leshem (Bar-Ilan University, Israel); Ephraim Zehavi (Bar-Ilan University, Israel)

RFID, M2M Communications, and Social Sensing (SEP III+MCCN)

Room: Independence A

Chair: Liqiang Zhang (Indiana University South Bend, USA)

Efficient Protocols for Rule Checking in RFID Systems

Yafeng Yin (Nanjing University, P.R. China); Lei Xie (Nanjing University, P.R. China); Sanglu Lu (Nanjing University, P.R. China); Daoxu Chen (Nanjing University, P.R. China)

Machine-to-Machine Communication over TV White Spaces for Smart Metering Applications

Luca Bedogni (University of Bologna & Department of Computer Science, Italy); Angelo Trotta (University of Bologna, Italy); Marco Di Felice (University of Bologna, Italy); Luciano Bononi (University of Bologna, Italy)

MINERVA: Information-Centric Programming for Social Sensing

Shiguang Wang (University of Illinois at Urbana Champaign, USA); Shaohan Hu (University of Illinois at Urbana-Champaign, USA); Shen Li (University of Illinois at Urbana-Champaign, USA); Hengchang Liu (UIUC, USA); Md Yusuf Sarwar Uddin (University of Illinois at Urbana-Champaign, USA); Tarek Abdelzaher (University of Illinois, Urbana Champaign, USA)

Load Balancing by Ruleset Partition for Parallel IDS on Multi-Core Processors

Haiyang Jiang (Institute of Computing Technology, CAS, P.R. China); Gaogang Xie (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Kavé Salamatian (LISTIC PolyTech, Université de Savoie Chambéry Annecy, France)

Multimedia and Networking (MRTM I+MCCN)

Room: Independence C

Chair: Yang Guo (Bell Labs, USA)

Measuring the Relationships between Internet Geography and RTT

Raul Landa (University College London), Richard G Clegg (University College London), João Taveira Araújo (University College London), Eleni Mykoniati (University College London), David Griffin (University College London), Miguel Rio (University College London)

Fast Queuing Policies for Multimedia Applications

Duong Nguyen-Huu (Oregon State University) Thai Duong (Oregon State University), Thinh Nguyen (Oregon State University)

Supporting Voice over LTE: Solutions, Architectures, and Protocols

Christopher Jasson Casey (Texas A&M University, USA); Srivatsan Rajagopalan (Qualcomm Inc., USA); Muxi Yan (Texas A&M University, USA); Graham Booker (Texas A&M University, USA); Alex Sprintson (Texas A&M University, USA); Walt Magnussen (Texas A&M University, USA)

Generic Real-Time Traffic Distribution Framework: Black Rider

Sandra Frei (University of Plymouth, United Kingdom); Woldemar Fuhrmann (University of Applied Sciences Darmstadt, Germany); Bogdan Ghita (University of Plymouth, United Kingdom)

Physical Layer, Cellular Networks and Cognitive Radios (CCHN III)

Room: Arawak (A/B)

Chair: Shiwen Mao (Auburn University, Auburn, AL, USA)

Analyzing and Modeling Temporal Patterns of Human Contacts in Cellular Networks

Hayang Kim (Georgia Institute of Technology, USA); Hui Zang (Sprint, USA); Xiaoli Ma (Georgia Institute of Technology, USA)

A Study of SNR Wall Phenomenon under Cooperative Energy Spectrum Sensing

Zejiào Li (University of Electronic and Science Technology of China, P.R. China); Xin Su (Tsinghua University, P.R. China); Jie Zeng (Tsinghua University, P.R. China); Yujun Kuang (University of Electronic Science and Technology of China, P.R. China); Haijun Wang (Tsinghua University, P.R. China)

CogWnet: A Resource Management Architecture for Cognitive Wireless Networks
Ismail AlQerm (KAUST, Saudi Arabia); Basem Shihada (KAUST, Saudi Arabia); Kang G. Shin (University of Michigan, USA)

Friday, August 2nd

8:30–10:15

Keynote III

Room: Independence B

Title: Next Steps towards Internet-optical Service Convergence: A Network Management Perspective

Speaker: Admela Jukan, Technische Universität Carolo-Wilhelmina zu Braunschweig (Brunswick), Germany

Chair: Christian Poellabauer, University of Notre Dame, USA

10:45–12:15

Invited Paper Session -III

Room: Independence B

Chair: Alhoussein A. Abouzeid (Rensselaer Polytechnic Institute, USA)

Network Characterization and Perceptual Evaluation of Skype Mobile Videos

Shraboni Jana (University of California, Davis, USA); Amit Pande (University of California Davis, CA, USA); An Chan (Broadcom Corporation, USA); Prasant Mohapatra (University of California, Davis, USA)

Resource Allocation for Energy Efficient k-out-of-n System in Mobile Ad Hoc Networks

Chien-An Chen (Texas A&M University, USA); Myounggyu Won (Texas A&M University, USA); Radu Stoleru (Texas A&M University, USA); Geoffrey G Xie (Naval Postgraduate School, USA)

Throughput Enhancement for WDS-based WLANs

Jae-Pil Jeong (Pohang University of Science and Technology (POSTECH), Korea); Wan-Seon Lim (Pohang University of Science and Technology (POSTECH), Korea); Young-Joo Suh (Pohang University of Science and Technology (POSTECH), Korea)

Security, Privacy, and Trust I (SPT I)

Room: Independence A

Chair: Victor CM Leung (The University of British Columbia, Canada)

Secure Verification of Location Claims on a Vehicular Safety Application

Wafa Ben Jaballah (University of Bordeaux 1, France);
Mauro Conti (University of Padua, Italy); Mosbah
Mohamed (University of Bordeaux 1 (Labri), France);
Claudio E. Palazzi (University of Padua, Italy)

MOTAG: Moving Target Defense Against Internet Denial of Service Attacks

Quan Jia (George Mason University, USA); Kun Sun
(George Mason University, USA); Angelos Stavrou
(George Mason University, USA)

Towards A Cooperative Mechanism Based Distributed Source Address Filtering

Jie Li (Tsinghua University, P.R. China); Jun Bi
(Tsinghua University, P.R. China); Jianping Wu
(Tsinghua University, P.R. China)

Integration of Quantitative Methods for Risk Evaluation within Usage Control Policies

Leanid Krautsevich (IIT-CNR, Italy); Aliaksandr
Lazouski (IIT-CNR, Italy); Fabio Martinelli (CNR-IIT,
Italy); Paolo Mori (IIT, CNR, Italy); Artsiom
Yautsiukhin (IIT-CNR, Italy)

Streaming and Content Distribution Networking (SCDN I)

Room: Independence C

Chair: Hang Liu (The Catholic University of America, USA)

Fast Near-Optimal Algorithm for Delivering Multiple Live Video Channels in CDNs

Jiayi Liu (Telecom Bretagne, France); Gwendal Simon
(Telecom Bretagne, France)

Video Browsing - A Study of User Behavior in Online VoD Services

Liang Chen (The Chinese University of Hong Kong);
YiPeng Zhou (The Chinese University of Hong Kong);
Dah Ming Chiu (The Chinese University of Hong Kong)

EMC: The Effective Multi-path Caching Scheme for Named Data Networking

Hao Wu (Tsinghua University, China); Jun Li (Tsinghua
University, China); Yi Wang (Tsinghua University,
China); Bin Liu (Tsinghua University, China)

Routing and Name Resolution in Information-Centric Networks

Hang Liu (The Catholic University of America, USA);
Dan Zhang (WINLAB, Rutgers University, USA)

13:30—15:00

Panel Discussion III

Room: Independence B

Topic: SDN and Network Virtualization

Moderator: Ilya Baldin, RENCI, USA

Panelists:

Kristin Raushenbach, BBN-Raytheon, USA

Gary Berger, Cisco, USA

Nick Bastin, Consultant, USA

15:30—17:00

Scalable, Reliable, and Energy-Efficient Networks (SREN I)

Room: Independence B

Chair: Luiz F. Bittencourt (University of Campinas, Brazil)

A Virtual Network Allocation Algorithm for Reliability Negotiation

Rafael Gomes (State University of Campinas, Brazil);

Luiz F. Bittencourt (University of Campinas, Brazil);

Edmundo Madeira (State University of Campinas,
Brazil)

A Novel Architecture for the Distribution Section of Smart Grid with Renewable Sources and Power Storage

Qi Wang (University of Trento, Italy); Raul Palacios

(University of Trento, Italy); Fabrizio Granelli

(University of Trento, Italy)

Profiling and Improving I/O Performance of a Large-Scale Climate Scientific Application

Zhuo Liu (Auburn University, USA); Bin Wang (Auburn

University, USA); Teng Wang (Auburn University,

USA); Yuan Tian (University of Tennessee, USA); Cong

Xu (Auburn University, USA); Yandong Wang (Auburn

University, USA); Weikuan Yu (Auburn University, USA)

Improving the Network Energy Efficiency in MapReduce Systems

Lin Wang (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Fa Zhang (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Zhiyong Liu (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China)

Security, Privacy, and Trust II (SPT II)

Room: Independence A

Chair: Jun Bi (Tsinghua University, P.R. China)

On Scaling Perturbation Based Privacy-preserving Schemes in Smart Metering Systems

Xuebin Ren (Xi'an Jiaotong University, P.R. China); Wei Yu (Towson University, USA); Xinyu Yang (Xi'an Jiaotong University, P.R. China); Jie Lin (Xi'an Jiaotong University, P.R. China); Qingyu Yang (Xi'an Jiaotong University, P.R. China)

Achieving Privacy of Data Requests in MANETs by means of Piggybacking and Hop Modification

Noor Abbani (American University of Beirut, Lebanon); Hassan A. Artail (American University of Beirut, Lebanon)

Network Coding Based Encryption System for Advanced Metering Infrastructure

Hasen Nicanfar (The University of British Columbia, Canada); Amr Alasaad (University of British Columbia, Canada); Peyman TalebiFard (The University of British Columbia, Canada); Victor CM Leung (The University of British Columbia, Canada)

A New Efficient Secure Coding Scheme for Random Linear Network Coding

Hassan Noura (Université Paris-Sud 11, France); Khaldoun Al Agha (LRI, France); Steven Martin (University of Paris-Sud 11, France)

NACSD Tutorial

Room: Independence C

Title: GENI: An Infrastructure for Networking Research and Education - A Talk and Demonstration

Speaker: Vicraj (Vic) Thomas, Raytheon BBN Technologies, USA

17:00—17:15

Concluding Remarks

Room: Independence B

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