

2014 IEEE 39th Conference on Local Computer Networks

(LCN 2014)

**Edmonton, Alberta, Canada
8-11 September 2014**



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Technical Program of LCN 2014 and Adjunct Workshops

Time	Salon A	Salon B	Lacombe	Klondike
Sunday, September 7				
16:00	Welcome Reception and Early Registration in the Promenade			
Monday, September 8				
08:00	Registration			
09:00		SenseApp: Applications I	P2MNet: Keynote: On Reliability of Wireless Sensor Networks	
10:30	Coffee break			
11:00		SenseApp: Keynote: Wireless Beyond Wi-Fi	P2MNet: Session2: Wireless Sensor networks	
12:00		SenseApp: Applications II		
12:30	Lunch break			
13:30				WNM: Keynote: Listening to Noise (and making sense of it)
13:45		SenseApp: Deployment and Programming	P2MNet: Session 3: QoS Analysis of Mobile Networks	WNM: Session 1
14:10				
15:00	Coffee break			
15:30		SenseApp: Radio and MAC	P2MNet: Session 4: Performance Analysis of Wireless Networks	WNM: Keynote: Network Performance Measurement for Real-Time Multiplayer Mobile Games
16:10				WNM: Session 2
16:25		Conclusion		
18:00	Workshops Monday - End of the technical program			
Tuesday, September 9				
08:00	Registration			
09:00	Opening and Welcome			
09:30	Keynote 1: Communication Ecosystem in Motion			
10:30	Coffee break			
11:00	1: Plenary session: Best Paper Candidates			
12:30	Lunch break			
13:30		2a: Wireless Multi-hop Networks	2b: Network Management	
15:30	Demonstrations with Coffee, Posters with Tea			
17:00	LCN Tuesday - End of the technical program			
18:00	Conference Banquet			
Wednesday, September 10				
08:30	Registration			

09:00		3a: Opportunistic Networks	3b: Network Traffic Characterization and Measurements	
10:30	Coffee break			
11:00	Keynote 2: Beyond Cyber-Physical Era: What's Next?			
12:00	Invitation to LCN 2015			
12:30	Lunch break			
13:30		4a: Localization	4b: Multimedia & Performance Evaluation	
15:00	Coffee break			
15:30		5a: Wireless Sensor Networks	5b: Security	
18:00	LCN Wednesday - End of the technical program			

Thursday, September 11

08:30	Registration			
09:00		goSmart: Keynote	ON-MOVE: Techniques and Approaches	WLN: Architectural challenges in future wireless networks
09:45		goSmart: Smart Energy		
10:30	Coffee break			
11:00		goSmart: Smart Services	ON-MOVE: Keynote	WLN: Novel paradigms in Wireless Local Networks
12:00			ON-MOVE: Applications	
12:30	Lunch break			
13:30	Workshops Thursday - End of the technical program			

Sunday, September 7

16:00 - 19:00

Welcome Reception and Early Registration in the Promenade

Monday, September 8

08:00 - 09:00

Registration

09:00 - 10:30

P2MNet: Keynote: On Reliability of Wireless Sensor Networks

Prof. Ehab Elmallah
Room: Lacombe

Abstract:

Wireless sensor networks (WSNs) have attracted significant attention in recent years for their potential to replace many of the existing wired sensing solutions, as well as provide new solution platforms where wired solutions are hard to deploy and maintain. The use of low cost communication and sensing devices, and the operation of such networks in harsh environments, however, make the nodes prone to random failure. Various reliability aspects of WSNs have been investigated in the literature since the cost and means of handling such failure events in the field can be a significant detrimental factor against adopting WSNs as dependable solutions.

In this talk, we discuss approaches for analysing the impact of node failure events on the operation of the overall network. To explore

11:00 - 12:30

1: Plenary session: Best Paper Candidates

Room: Salon A

Chair: Nils Aschenbruck (University of Osnabrück, Germany)

Practical OFDMA for Corridor-based Routing in Wireless Multihop Networks

Adrian Loch (Technische Universität Darmstadt, Germany), Matthias Hollick (Technische Universität Darmstadt & Secure Mobile Networking Lab, Center for Advanced Security Research Darmstadt, Germany), Alexander Kuehne (TU Darmstadt, Germany) and Anja Klein (TU Darmstadt, Germany)
pp. 1-9

Content Peering in Content Centric Networks

Jason Min Wang (The Hong Kong University of Science and Technology, Hong Kong), Xiangming Dai (The Hong Kong University of Science and Technology, Hong Kong) and Brahim Bensaou (The Hong Kong University of Science and Technology, Hong Kong)
pp. 10-18

vINCENT: An Incentive Scheme Supporting Heterogeneity in Peer-to-Peer Content Distribution

Matthias Wichtlhuber (Technische Universität Darmstadt, Germany), Peter Heise (Airbus Group Innovations, Germany), Björn Scheurich (TU Darmstadt, Germany), Julius Rückert (Technische Universität Darmstadt, Germany) and David Hausheer (TU Darmstadt, Germany)
pp. 19-27

12:30 - 13:30

Lunch break

13:30 - 15:30

2a: Wireless Multi-hop Networks

Room: Salon B

Chair: Matthias Hollick (Technische Universität Darmstadt & Secure Mobile Networking Lab, Center for Advanced Security Research Darmstadt, Germany)

Caching-Assisted Access for Vehicular Resources

Sherin Abdelhamid (Queen's University, Canada), Hossam S. Hassanein (Queen's University, Canada), Glen Takahara (Queen's University, Canada) and Hesham Farahat (Queen's University, Canada)
pp. 28-36

Dynamic Curve Adaptation for Geographic Routing in Wireless Multihop Networks

Adrian Loch (Technische Universität Darmstadt, Germany), Wei-Chih Hong (Academia Sinica, Taiwan) and Matthias Hollick (Technische Universität Darmstadt & Secure Mobile Networking Lab, Center for Advanced Security Research Darmstadt, Germany)
pp. 37-45

On the Potential of MPT/MPR Wireless Networks

Ke Li (University of Alberta, Canada), Ioanis Nikolaidis (University of Alberta, Canada) and Janelle Harms (University of Alberta, Canada)
pp. 46-54

A Multi-rate Multi-channel Multicast Algorithm in Wireless Mesh Networks

Wanqing Tu (Robert Gordon University, United Kingdom)
pp. 55-63

Caching Piggyback Information for Efficient Index Code Transmission

Jalaluddin Qureshi (Namal College, Pakistan)
pp. 64-71

2b: Network Management

Room: Lacombe

Chair: Jens Toelle (Fraunhofer FKIE & University of Bonn, Germany)

Resource Allocation and Request Handling for User-Aware Content Retrieval in the Cloud

Boyang Yu (University of Victoria, Canada) and Jianping Pan (University of Victoria, Canada)
pp. 72-80

Resource Reservation Comparison of Fault Resilient Routing Schemes

Yigal Bejerano (Bell-Labs, Alcatel-Lucent, USA) and Pramod Koppol (Bell Labs, Alcatel-Lucent, USA)
pp. 81-89

Efficient Virtual Network Embedding Via Exploring Periodic Resource Demands

Zichuan Xu (Australian National University, Australia), Weifa Liang (The Australian National University, Australia) and Qiufen Xia (Australian National University, Australia)
pp. 90-98

Performance of Probabilistic Caching and Cache Replacement Policies for Content-Centric Networks

Saran Tarnoi (National Institute of Informatics & The Graduate University for Advanced Studies, Japan), Kalika Suksomboon (KDDI R&D Laboratories Inc., Japan), Wuttipong Kumwilaisak (King Mongkut's University of Technology, Thonburi, Thailand) and Yusheng Ji (National Institute of Informatics, Japan)
pp. 99-106

CQRD: A Switch-based Approach to Flow Interference in Data Center Networks

Guo Chen (Tsinghua University, P.R. China), Dan Pei (Tsinghua University, P.R. China) and Youjian Zhao (Tsinghua University, P.R. China)
pp. 107-115

15:30 - 17:00

Demonstrations with Coffee

Room: Salon A

Chair: Karl Andersson (Luleå University of Technology, Sweden)

A Web-based Time Machine with Augmented Reality

Mikael Holmgren (Luleå University of Technology, Sweden), Dan Johansson (Luleå University of Technology, Sweden) and Karl Andersson (Luleå University of Technology, Sweden)

Advances in Wireless M2M and IoT: Rapid SDR-prototyping of IEEE 802.11ah

Stefan Aust (NEC Communication Systems, Ltd., Japan), R Venkatesha Prasad (TU Delft, India) and Ignas G.M.M. Niemegeers (Delft University of Technology, The Netherlands)

Demonstration of Bandwidth Demand and Jitter Properties of a Software Sender/Scheduler for the (proposed) ILDA Digital Network

Matthias Frank (University of Bonn, Germany)

Demo Proposal for IEEE LCN 2014 Cryptographically-Curated File System (CCFS): Secure, Inter-operable, and Easily Implementable Information-Centric Networking

Aaron Goldman (Georgia Institute of Technology, USA), A. Selcuk Uluagac (Florida International University & Electrical and Computer Engineering, USA) and John A. Copeland (Georgia Institute of Technology, USA)

The Smartphone Based Road Condition Monitoring (SRoM) System

Sam Aleyadeh (Queen's University, Canada), Sharief M.A. Oteafy (Queen's University, Canada), Sherin Abdelhamid (Queen's University, Canada) and Hossam S. Hassanein (Queen's University, Canada)

Posters with Tea

Room: Salon A

Chair: Salil S Kanhere (The University of New South Wales, Australia)

Towards On-Path Caching Alternatives in Information-Centric Networks

Andriana Ioannou (Trinity College of Dublin, Ireland) and Stefan Weber (Trinity College Dublin, Ireland)
pp. 362-365

Performances of Cryptographic Accumulators

Amrit Kumar (INRIA Rhone-Alpes, France), Pascal Lafourcade (LIMOS, Clermont University, France) and Cedric Lauradoux (INRIA & Insa Lyon, France)
pp. 366-369

Delay Tolerant Handover for Heterogeneous Networks

Peggy Begerow (Technische Universitaet Ilmenau, Germany), Silvia Krug (Technische Universitaet Ilmenau, Germany), Atheer Al-Rubaye (Ilmenau University of Technology, Germany), Karsten Renhak (Technische Universitaet Ilmenau, Germany) and Jochen Seitz (Technische Universitaet Ilmenau, Germany)
pp. 370-373

Reducing MANET Neighborhood Discovery Overhead

Raphael Ernst (University of Bonn, Germany), Sascha A. Jopen (University of Bonn, Germany) and Tobias Bartelt (University of Bonn, Germany)
pp. 374-377

Back to the Future: A Need for Multi-Drop Ethernet for Cost-Effective Power Distribution

Ken Christensen (University of South Florida, USA) and Bruce Nordman (Lawrence Berkeley National Laboratory, USA)
pp. 378-381

Secure Key Renewal and Revocation for Wireless Sensor Networks

Ismail Mansour (Clermont University, France), Gerard Chalhoub (Clermont University, France), Pascal Lafourcade (LIMOS, Clermont University, France) and François Delobel (Clermont University & LIMOS, CNRS (UMR VI-I-V-VIII), France)
pp. 382-385

Time Calibration in Experiments with Networked Sensors

Olivier Mehani (NICTA, Australia), Ronnie Taib (NICTA, Australia) and Benjamin Itzstein (National ICT Australia, Australia)
pp. 386-389

Spatial Unfairness in IEEE 802.11 Networks

Yigal Bejerano (Bell-Labs, Alcatel-Lucent, USA), Hyoung-gyu Choi (Yonsei University, Korea) and Seung-Jae Han (Yonsei University, Korea)
pp. 390-393

Data Aggregation in VANETs - A Generalized Framework for Channel Load Adaptive Schemes

Josef Jiru (Fraunhofer ESK, Germany), Lars Bremer (Fraunhofer ESK, Germany) and Kalman Graffi (Heinrich Heine University Düsseldorf, Germany)
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Forming MS-Free and Outdegree-Limited Bluetooth Scatternets in Pessimistic Environments

Ahmed Jedda (University of Ottawa, Canada) and Hussein T Mouftah (University of Ottawa, Canada)
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Decentralizing SDN's Control Plane

Mateus A. S. Santos (University of Sao Paulo, Brazil), Bruno Astuto Arouche Nunes (INRIA & University of California Santa Cruz (UCSC), France), Katia Obraczka (University of California, Santa Cruz, USA), Thierry Turlatti (INRIA, France), Bruno T. de Oliveira (University of São Paulo, Brazil) and Cintia Borges Margi (Universidade de São Paulo & Escola Politécnica, Brazil)
pp. 402-405

An Image Retrieval Framework for Distributed Datacenters

Di Yang (Beijing University of Posts and Telecommunications, P.R. China), Jianxin Liao (Beijing University of Posts and Telecommunications, P.R. China), Qi Qi (Beijing University of Posts and Telecommunications, P.R. China), Jingyu Wang (Beijing University of Posts and Telecommunications, P.R. China) and Tonghong Li (Technical university of Madrid, Spain)
pp. 406-409

Optimal Power Allocation in Cognitive Networks Using Non-Orthogonal AF Relays

Mahmoud Elsaadany (University of Alberta, Canada)
pp. 410-413

Optimal Cooperative Routing Protocol Based on Prefix Popularity for Content Centric Networking

Saran Tarnoi (National Institute of Informatics & The Graduate University for Advanced Studies, Japan), Wuttipong Kumwilaisak (King Mongkut's University of Technology, Thonburi, Thailand) and Yusheng Ji (National Institute of Informatics, Japan)
pp. 414-417

Scheduling Policies Based on Dynamic Throughput and Fairness Tradeoff Control in LTE-A Networks

Ioan Sorin Comsa (University of Bedfordshire & University of Applied Sciences of Western Switzerland, Switzerland), Mehmet Emin Aydin (University of Bedfordshire, United Kingdom), Sijing Zhang (University of Bedfordshire, United Kingdom), Pierre Kuonen (University of Applied Sciences of Western Switzerland, Switzerland), Jean-Frederic Wagen (University of Applied Sciences of Western Switzerland, Fribourg, Switzerland) and Yao Lu (University of Fribourg, Switzerland)
pp. 418-421

Incremental Collaborative Trajectory Estimation Using WSN Based on Multifrontal QR Factorization

Daniel Igor Quiñones (University of São Paulo, Brazil) and Cintia Borges Margi (Universidade de São Paulo & Escola Politécnica, Brazil)
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An Approximation to Rate-Equalization Fairness with Logarithmic Complexity for QoS

Jorge A. Cobb (The University of Texas at Dallas, USA) and Suparn Gupta (University of Texas at Dallas, USA)
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An Eigendecomposition Based Adaptive Spatial Sampling Technique for Wireless Sensor Networks

Sabri E Zaman (Queen Mary University of London, United Kingdom), Manik Gupta (Queen Mary, University of London, United Kingdom), Raul Mondragon (Queen Mary University of London, United Kingdom) and Eliane Bodanese (Queen Mary, University of London, United Kingdom)
pp. 430-433

Characterizing the Performance of Beamforming WiFi Access Points

Mohammad Naghibi (University of Calgary, Canada) and Majid Ghaderi (University of Calgary, Canada)
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A Cross Layer Routing Scheme for Passive RFID Tag-to-tag Communication

Haifeng Niu (Missouri University of Science and Technology, USA) and Sarangapani Jagannathan (Missouri University of Science and Technology, USA)
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A Seamless Handover for WSN Using LMS Filter

Waltenegus Dargie (Technische Universität Dresden, Germany) and Jianjun Wen (Technische Universität Dresden, Germany)
pp. 442-445

Standard-Compliant Simulation for Self-Organization Schemes in LTE Femtocells

Kais Elmurtadi Suleiman (University of Waterloo, Canada), Abd-Elhamid M. Taha (Alfaisal University, Saudi Arabia) and Hossam S. Hassanein (Queen's University, Canada)
pp. 446-449

Modelling Vegetation Effects on RF Propagation

Mohammad M. Bhuiyan (University of Alberta, Canada) and Mike H. MacGregor (University of Alberta, Canada)
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Evaluation of a Hybrid Multi-Channel MAC Protocol for Periodic and Burst Traffic

Rana Diab (Clermont University, France), Gerard Chalhoub (Clermont University, France) and Michel J. Misson (Clermont Université / LIMOS CNRS, France)
pp. 454-457

Inbound Interdomain Traffic Engineering with LISP

Daniel Herrmann (Fraunhofer IGD, Germany), Martin Turba (Fraunhofer IGD, Germany), Arjan Kuijper (Fraunhofer IGD & TU Darmstadt, Germany) and Immanuel Schweizer (Technische Universität Darmstadt, Germany)
pp. 458-461

Towards Stochastic Flow-Level Network Modeling: Performance Evaluation of Short TCP Flows

Fabien Geyer (Airbus Group Innovations, Germany), Stefan Schneele (Airbus Group Innovations, Germany) and Georg Carle (Technische Universität München, Germany)
pp. 462-465

Cross-Layer Optimisation for Topology Design of Wireless Multicast Networks Via Network Coding

Quoc-Tuan Vien (Middlesex University, United Kingdom), Wanqing Tu (Robert Gordon University, United Kingdom), Huan X Nguyen (Middlesex University, United Kingdom) and Ramona Trestian (Middlesex University, United Kingdom)
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A Distributed Tracking Algorithm for Target Interception in Face-Structured Sensor Networks

Efren Lopes Souza (Federal University of Amazonas, Brazil), Richard W. Pazzi (University of Ontario Institute of Technology, Canada) and Eduardo Freire Nakamura (FUCAPI - Research and Technological Innovation Center, Brazil)
pp. 470-473

NCoS: A Framework for Realizing Network Coding Over Software-Defined Network

Sicheng Liu (University of Science and Technology of China, P.R. China) and Bei Hua (University of Science and Technology of China, P.R. China)
pp. 474-477

Optimal Rate Allocation and Scheduling in Cooperative Streaming

Mohammad Reza Zakerinasab (University of Calgary, Canada) and Mea Wang (University of Calgary, Canada)
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Traffic Anomaly Detection in the Presence of P2P Traffic

Sardar Ali (University of Victoria, Canada), Kui Wu (University of Victoria, Canada) and Hassan Khan (University of Waterloo, Canada)
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Modeling for User Interaction by Influence Transfer Effect in Online Social Networks

Qindong Sun (Xi'an University of Technology, P.R. China), Nan Wang (Xi'an University of Technology, P.R. China), Yadong Zhou (Xian Jiaotong University, P.R. China), Hanqin Wang (Xi'an University of Technology, P.R. China) and Liansheng Sui (Xi'an University of Technology, P.R. China)
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A Novel Vehicular Sensing Framework for Smart Cities

Jagruti Sahoo (Université de Sherbrooke, Canada), Soumaya Cherkaoui (Université de Sherbrooke, Canada) and Abdelhakim Hafid (University of Montreal, Canada)

pp. 490-493

Leveraging Network Virtualization for Energy-Efficient Cloud: Future Directions

Fatoumata B. Kasse (Université Cheikh Anta Diop de Dakar, Senegal), Bamba Gueye (Université Cheikh Anta Diop de Dakar, Senegal) and Halima Elbiaze (University of Quebec at Montreal, Canada)

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On the Possibility of Mitigating Content Pollution in Content-Centric Networking

Igor Ribeiro (Universidade Federal Fluminense, Brazil), Antonio A Rocha (Fluminense Federal University, Brazil), Celio Albuquerque (Fluminense Federal University, Brazil) and Flávio Guimarães (Marinha do Brasil, Brazil)

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Anchor Selection and Geo-Logical Routing in 3D Wireless Sensor Networks

Yi Jiang (Colorado State University, USA) and Anura P Jayasumana (Colorado State University, USA)

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A Fine-Grain Partial MAC Virtualization to Support Cross Layer Design in Wireless Ad Hoc Networks

Seon Yeong Han (KAIST, Korea), Byoungheon Shin (Korea Advanced Institute of Science and Technology, Korea) and Dongman Lee (KAIST, Korea)

pp. 506-509

A Stable Minimum Velocity CDS-based Virtual Backbone for VANET in City Environment

Mohammed Amine Togou (University of Montreal & Network Research Laboratory, Canada), Abdelhakim Hafid (University of Montreal, Canada) and Pratap Kumar Sahu (University of Montreal, Canada)

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17:00 - 17:15

LCN Tuesday - End of the technical program

18:00 - 22:00

Conference Banquet

Wednesday, September 10

08:30 - 09:00

Registration

09:00 - 10:30

3a: Opportunistic Networks

Room: Salon B

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

Analyzing Information Propagation in a Transoceanic Aircraft Delay Tolerant Network

Rubén Martínez-Vidal (Universitat Autònoma de Barcelona, Spain), Ramon Martí (Universitat Autònoma de Barcelona, Spain) and Joan Borrell (Universitat Autònoma de Barcelona, Spain)

pp. 116-123

Real-World Evaluation of Sensor Context-aware Adaptive Duty-cycled Opportunistic Routing

Zhongliang Zhao (University of Bern, Switzerland) and Torsten Ingo Braun (University of Bern, Switzerland)
pp. 124-132

MEME: Real-Time Mobility Estimation for Mobile Environments

Shiraz Qayyum (Rochester Institute of Technology, USA), Umair Sadiq (University of Texas at Arlington, USA) and Mohan J Kumar (Rochester Institute of Technology, USA)
pp. 133-141

Cryptographically-Curated File System (CCFS): Secure, Inter-operable, and Easily Implementable Information-Centric Networking

Aaron Goldman (Georgia Institute of Technology, USA), A. Selcuk Uluagac (Florida International University & Electrical and Computer Engineering, USA) and John A. Copeland (Georgia Institute of Technology, USA)
pp. 142-149

3b: Network Traffic Characterization and Measurements

Room: [Lacombe](#)

Chair: Olivier Mehani (NICTA, Australia)

Practical Passive Shared Bottleneck Detection Using Shape Summary Statistics

David Hayes (University of Oslo, Norway), Simone Ferlin (University of Oslo & Simula Research Laboratory, Norway) and Michael Welzl (University of Oslo, Norway)
pp. 150-158

Evaluating CoDel, PIE, and HRED AQM Techniques with Load Transients

Ilpo Järvinen (University of Helsinki, Finland) and Markku Kojo (University of Helsinki, Finland)
pp. 159-167

CluClas: Hybrid Clustering-Classification Approach for Accurate and Efficient Network Classification

Adil Fahad (RMIT University, Australia), Kurayman Alharthi (Deakin University, Australia), Zahir Tari (RMIT University, Australia), Abdulmohsen Almalawi (RMIT University, Australia) and Ibrahim Khalil (Faculty member, RMIT University, Australia)
pp. 168-176

A TCP Model for Short-Lived Flows to Validate Initial Spreading

Renaud Sallantin (University of Toulouse & CNES, France), Cédric Baudoin (Thales Alenia Space, France), Emmanuel Chaput (Irit-Enseeiht, France), Fabrice Arnal (Thales Alenia Space, France), Emmanuel Dubois (CNES, France) and André-Luc Beylot (IRIT Toulouse, France)
pp. 177-184

10:30 - 11:00

Coffee break

11:00 - 12:00

Keynote 2: Beyond Cyber-Physical Era: What's Next?

Prof. Sajal K. Das, Department of Computer Science, Missouri University of Science and Technology

Room: [Salon A](#)

Chair: Salil S Kanhere (The University of New South Wales, Australia)

Abstract: We live in an era where our physical and personal environments are becoming increasingly smarter as they are immersed with sensing, networking, computing and communication capabilities. The availability of rich mobile devices like smartphones have empowered humans as an integral part of many cyber-physical systems. This synergy has indeed led to what is called "cyber-physical-social convergence" exhibiting complex interactions, interdependencies and adaptations among objects, devices, machines, systems/environments, users, human behavior, and social dynamics. In such a connected world, almost everything can potentially

act as information source, analyzer and decision maker. This keynote talk will present some of the emerging research challenges and opportunities in the world of cyber-physical-social convergence. It will also reflect upon the fundamental question: "What's Next?"

12:00 - 12:30

Invitation to LCN 2015

Room: Salon A

12:30 - 13:30

Lunch break

13:30 - 15:00

4a: Localization

Room: Salon B

Chair: Tim Strayer (BBN Technologies, USA)

A Cooperative Localization Scheme Using RFID Crowdsourcing and Time-Shifted Multilateration

Lobna Eslim (Queen's University, Canada), Hossam S. Hassanein (Queen's University, Canada), Walid M. Ibrahim (Queen's University, Canada) and Abdallah Alma'aitah (Queen's University, Canada)
pp. 185-192

An Energy Efficient Framework for Localization and Coverage in Participatory Urban Sensing

Adnan Khan (The University of Texas at Arlington, USA), Sk Kajal Arefin Imon (University of Texas at Arlington, USA) and Sajal K. Das (Missouri University of Science and Technology, USA)
pp. 193-201

CSI-MIMO: Indoor Wi-Fi Fingerprinting System

Yogita Chapre (University of New South Wales, Australia), Aleksandar Ignjatovic (University of New South Wales, Australia), Aruna Seneviratne (University of New South Wales, Australia) and Sanjay Jha (University of NSW, Australia)
pp. 202-209

WaP: Indoor Localization and Tracking Using WiFi-Assisted Particle Filter

Feng Hong (Ocean University of China, P.R. China), Yongtuo Zhang (Ocean University of China, P.R. China), Zhao Zhang (Ocean University of China, P.R. China), Meiyu Wei (Ocean University of China, P.R. China), Feng Yuan (Ocean University of China, P.R. China) and Zhongwen Guo (Ocean University of China, P.R. China)
pp. 210-217

4b: Multimedia & Performance Evaluation

Room: Lacombe

Chair: Ioanis Nikolaidis (University of Alberta, Canada)

How Dia-Shows Turn Into Video Flows: Adapting Scalable Video Communication to Heterogeneous Network Conditions in Real-Time

Fabian Jäger (HAW Hamburg, Germany), Thomas C. Schmidt (Hamburg University of Applied Sciences, Germany) and Matthias Wählisch (Freie Universität Berlin, Germany)
pp. 218-226

A Deterministic QoE Formalization of User Satisfaction Demands (DQX)

Christos Tsiaras (University of Zurich & Communication Systems Group, Switzerland) and Burkhard Stiller (University of Zürich & ETH Zürich, TIK, Switzerland)
pp. 227-235

PowerPi: Measuring and Modeling the Power Consumption of the Raspberry Pi

Fabian Kaup (TU Darmstadt, Germany), Philip Gottschling (TU Darmstadt, Germany) and David Hausheer (TU Darmstadt, Germany)
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H-box: Interconnecting Devices Across Local Networks

Dung Vu Ba Tien (Aalto University, Finland), Miika K.T. Komu (Aalto University, Finland), Matti Siekkinen (Aalto University, Finland) and Antti Ylä-Jääski (Aalto University, Finland)
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15:00 - 15:30

Coffee break

15:30 - 18:00

5a: Wireless Sensor Networks

Room: Salon B

Chair: Matthias Frank (University of Bonn, Germany)

Breach Path to Target Area Detection Reliability in Wireless Sensor Networks

Mohammed Elmorsy (Alberta University, Canada) and Ehab S. Elmallah (University of Alberta, Canada)
pp. 253-261

An Energy- And Proximity-based Unequal Clustering Algorithm for Wireless Sensor Networks

Mohammad Mehdi Afsar (University of QIAU, Iran) and Mohamed Younis (University of Maryland Baltimore County, USA)
pp. 262-269

Maintaining Sensor Networks Perpetually Via Wireless Recharging Mobile Vehicles

Weifa Liang (The Australian National University, Australia), Wenzheng Xu (Sun Yat-Sen University, The Australian National University, P.R. China), Xiaojiang Ren (The Australian National University, Australia), Xiaohua Jia (City University of Hong Kong, Hong Kong) and XiaoLa Lin (Sun Yat-Sen University, P.R. China)
pp. 270-278

Bi-Scale Temporal Sampling Strategy for Traffic-Induced Pollution Data with Wireless Sensor Networks

Lamling Venus Shum (University College London, United Kingdom), Stephen Hailes (University College London, United Kingdom), Manik Gupta (Queen Mary, University of London, United Kingdom), Eliane Bodanese (Queen Mary, University of London, United Kingdom), Pachamuthu Rajalakshmi (Indian Institute of Technology Hyderabad, India) and Uday B Desai (IIT Hyderabad, India)
pp. 279-287

Data Collection From Wireless Sensor Networks Using a Hybrid Mobile Agent-based Approach

Tuhin Paul (University of Saskatchewan, Canada) and Kevin G Stanley (University of Saskatchewan, Canada)
pp. 288-295

Measuring the Impact of Denial-of-Service Attacks on Wireless Sensor Networks

Michael Riecker (Technische Universität Darmstadt, Germany), Daniel Thies (Banking, Germany) and Matthias Hollick (Technische Universität Darmstadt & Secure Mobile Networking Lab, Center for Advanced Security Research Darmstadt, Germany)
pp. 296-304

5b: Security

Room: Lacombe

Chair: Katrin Reitsma (Motorola Solutions, USA)

MPFC: Massively Parallel Firewall Circuits

Sven Hager (Humboldt University of Berlin, Germany), Frank Winkler (Humboldt University of Berlin, Germany), Björn Scheuermann (Humboldt University of Berlin, Germany) and Klaus Reinhardt (Universität Tübingen, Germany)
pp. 305-313

On Rule Width and the Unreasonable Effectiveness of Policy Verification

Hrishikesh B Acharya (University of Texas at Austin, USA)
pp. 314-321

OutMet A New Metric for Prioritising Intrusion Alerts Using Correlation and Outlier Analysis

Riyanat Shittu, Miss (City University London & British Telecom (BT), United Kingdom), Muttukrishnan Rajarajan (City University London, United Kingdom), Robin Bloomfield (City University, United Kingdom), Alex Healing (British Telecom, United Kingdom) and Robert Ghanea-Hercock (British Telecom, United Kingdom)
pp. 322-330

A Gen2v2 Compliant RFID Authentication and Ownership Management Protocol

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