

WiOpt 2015 – Technical Program

Monday, May 25th (Workshops)

09:00-17:00 **RAWNET (Resource Allocation, Cooperation and Competition in Wireless Networks)**

Venue: Seminar room 1, Ground floor

09:00-15:30 **WINMEE (Wireless Networks: Measurements and Experimentation)**

Venue: Seminar room 2, Ground floor

09:30-12:00 **GREEN (Green and Energy Efficient Networks)**

Venue: Seminar room 3, Ground floor

14:00-18:00 **D2D (Device-to-Device Communications)**

Venue: Seminar room 3, Ground floor

18:00-19:30 **Panel Discussion on Net Neutrality**

Venue: Lecture Hall 21, Second Floor

Panelists

Eitan Altman, INRIA, France

Sunil Mani, Centre for Developmental Studies, Trivandrum

Pranesh Prakash, The Centre for Internet & Society, Bangalore

Sridhar Varadarajan, IIIT Bangalore

Moderator

Rajesh Sundaresan, Indian Institute of Science, Bangalore

Welcome reception and Dinner at VMCC Lawns

Tuesday, May 26th

08:00-09:00 Registration

09:00-09:30 Opening remarks by Steering Committee, General Chairs and TPC Chairs

09:30-10:30 **Plenary Speaker: Professor Patrick Thiran (EPFL)**

Venue: Lecture Hall 21, Second Floor

10:30-11:00 **Break**

11:00-12:30 **Session 1: Security**

Venue: Seminar room 1, Ground floor

Session Chair: Jonathan Ponniah (Texas A&M, USA)

Beating Resource Constrained Eavesdroppers: A Physical Layer Security Study

Albert Sunny (Indian Institute of Science, India)

Siddhartha Sarma (Indian Institute of Science, India)

Joy Kuri (Indian Institute of Science, India)

A Clean Slate Design for Secure Wireless Ad-Hoc Networks - Part 1: Closed Synchronized Networks

Jonathan Ponniah (Texas A&M, USA)

Yih-Chun Hu (University of Illinois at Urbana-Champaign, USA)

P. R. Kumar (Texas A&M, USA)

A Clean Slate Design for Secure Wireless Ad-Hoc Networks - Part 2: Open Unsynchronized Networks

Jonathan Ponniah (Texas A&M, USA)

Yih-Chun Hu (University of Illinois at Urbana-Champaign, USA)

P. R. Kumar (Texas A&M, USA)

Exact Analysis of k-Connectivity in Secure Sensor Networks with Unreliable Links

Jun Zhao (Carnegie Mellon University, USA)

Osman Yagan (Carnegie Mellon University & CyLab, USA)

Virgil Gligor (Carnegie Mellon University, USA)

Session 2: Energy Efficiency – I

Venue: Seminar room 2, Ground floor

Session Chair: Lin Gao (The Chinese University of Hong Kong, Hong Kong)

ARM: Anonymous Rating Mechanism for Discrete Power Control

Shuqin Li (Bell Labs China, Alcatel-Lucent Shanghai Bell Co., Ltd., Hong Kong)

Ziyu Shao (ShanghaiTech University, P.R. China)

Jianwei Huang (The Chinese University of Hong Kong, Hong Kong)

Minimum-Energy Link Scheduling for Emptying Wireless Networks

Gam Nguyen (Naval Research Laboratory, USA)

Sastry Kompella (Naval Research Laboratory, USA)

Clement Kam (Naval Research Laboratory, USA)

Jeffrey Wieselthier (Wieselthier Research, USA)

Anthony Ephremides (University of Maryland at College Park, USA)

Lifetime Optimization for Large-Scale Sink-Centric Wireless Sensor Networks

Soo-Hoon Moon (Yonsei University, Korea)

Seung-Jae Han (Yonsei University, Korea)

Minimal Access Point Set in Urban Area Wifi Networks

Dareen Shehadeh (Institut Mines Telecom / Telecom Bretagne, France)

Nicolas Montavont (Institut Mines Telecom / Telecom Bretagne, France)

Tanguy Kerdoncuff (Institut Mines Telecom / Telecom Bretagne, France)

Alberto P Blanc (Telecom Bretagne, France)

12:30-13:00 Invited Paper: Invited Paper: A Novel Data Center Network Architecture with Zero in-Network Queuing

Professor Tara Javidi (University of California, San Diego)

Venue: Lecture Hall 21, Second Floor

13:00-14:00 Lunch

14:00-15:30 **Session 3: Energy Efficiency – II** Venue: Seminar room 1, Ground floor
Session Chair: Sharayu Moharir (Tata Institute of Fundamental Research, India)

Optimal Online Strategies for an Energy Harvesting System with Bernoulli Energy Recharges

Abbas Kazerouni (Stanford University, USA)

Ayfer Ozgur (Stanford University, USA)

Changing Paradigms for Green Cellular Networks: The Case of Delay-Tolerant Users

Samantha Gamboa (Institut Mines-Telecom / Telecom Bretagne, France)

Alexander Pelov (Institut Mines-Telecom / Telecom Bretagne, France)

Nicolas Montavont (Institut Mines-Telecom / Telecom Bretagne, France)

Minimizing Backlog for Downlink of Energy Harvesting Networks

Venkhat V (IIT Bombay, India)

Prasanna Chaporkar (IIT Bombay, India)

Abhay Karandikar (IIT Bombay, India)

TAES: Traffic-Aware Energy-Saving Base Station Sleeping and Clustering in Cooperative Networks

Jihwan Kim (KAIST, Korea)

Hyang-Won Lee (Konkuk University, Korea)

Song Chong (KAIST, Korea)

15:30-16:00 Break

16:00-18:00 **Session 4: Scheduling and Resource Allocation** Venue: Seminar room 2, Ground floor
Session Chair: Venkatesh Ramaiyan (Indian Institute of Technology Madras, India)

On 2-moment Completeness of Non Pre-emptive, Non Anticipative Work Conserving Scheduling Policies in Some Single Class Queues

Manu K. Gupta (IIT Bombay, India)

Hemachandra N (IIT Bombay, India)

Cluster-Centric Medium Access Control for WSNs in Structural Health Monitoring

Saurabh Singh (Victoria University of Wellington, New Zealand)

Winston K.G. Seah (Victoria University of Wellington, New Zealand)

Bryan Ng (Victoria University of Wellington, New Zealand)

Optimizing User Association and Activation Fractions in Heterogeneous Wireless Networks

Vaibhav Singh (University of Maryland, USA)

Narayan Prasad (NEC Labs America, Princeton, USA)

Mustafa Y. Arslan (NEC Laboratories America, Inc., USA)

Sampath Rangarajan (NEC Labs America, USA)

Optimal Radio Access Technology Selection Policy for LTE-WiFi Network

Arghyadip Roy (IIT Bombay, India)
Abhay Karandikar (IIT Bombay, India)

WiCOD: Wireless Control Plane Serving an all-Optical Data Center

Tugcan Aktas (University of California, San Diego, USA)
Chang-Heng Wang (University of California, San Diego, USA)
Tara Javidi (UCSD, USA)

Wednesday, May 27th

09:00-09:30 **Invited Paper: Spectrum Sharing and Scheduling in D2D-Enabled Dense Cellular Networks**
Professor Sanjay Shakkottai (The University of Texas at Austin)
Venue: Lecture Hall 21, Second Floor

09:30-11:00 **Session 5: Performance Analysis** Venue: Seminar room 1, Ground floor
Session Chair: Chandramani Singh (Indian Institute of Science, India)

Opportunistic Gains of Mobility in Cellular Data Networks

Nivine Abbas (Telecom Paristech & Orange Labs, France)
Thomas Bonald (Telecom ParisTech, France)
Berna Sayrac (Orange Labs, France)

Fairness Analysis of Physical Layer Capture Effects in IEEE 802.11 Networks

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

An Improved IEEE 802.11 CSMA/CA Medium Access Mechanism Through the Introduction of Random Short Delays

Nirmala Shenoy (Rochester Institute of Technology, USA)
John Hamilton (Rochester Institute of Technology, USA)
Andres Kwasinski (Rochester Institute of Technology, USA)
Kaiqi Xiong (Rochester Institute of Technology, USA)

Modeling Sparsity of Planar Topologies for Wireless Multi-hop Networks

Ashikur Rahman (State University of New York, USA)
Nawshad Rasha (Bangladesh University of Engineering and Technology (BUET), Bangladesh)
Imtiaz Ahmed (Bangladesh University of Engineering and Technology (BUET), Bangladesh)
Sirat Samyoun (Bangladesh University of Engineering and Technology (BUET), Bangladesh)

Session 6: Game Theoretic Models - I Venue: Seminar room 2, Ground floor
Session Chair: Joy Kuri (Indian Institute of Science, India)

Cooperative Wi-Fi Deployment: A One-to-Many Bargaining Framework

Haoran Yu (The Chinese University of Hong Kong, Hong Kong)

Man Hon Cheung (The Chinese University of Hong Kong, Hong Kong)

Jianwei Huang (The Chinese University of Hong Kong, Hong Kong)

A Game-Theoretic Analysis of User Behaviors in Crowdsourced Wireless Community Networks **Best Student Paper Award**

Qian Ma (The Chinese University of Hong Kong, Hong Kong)

Lin Gao (The Chinese University of Hong Kong, Hong Kong)

Ya-Feng Liu (Chinese Academy of Sciences, P.R. China)

Jianwei Huang (The Chinese University of Hong Kong, Hong Kong)

Mobile Data Trading: A Behavioral Economics Perspective

Junlin Yu (The Chinese University of Hong Kong, Hong Kong)

Man Hon Cheung (The Chinese University of Hong Kong, Hong Kong)

Jianwei Huang (The Chinese University of Hong Kong, Hong Kong)

Vincent Poor (Princeton University, USA)

Load Balancing in Heterogeneous Networks Based on Distributed Learning in Potential Games

Mohd. Shabbir Ali (Telecom ParisTech & Indian Institute of Science, France)

Pierre Coucheney (University of Versailles, France)

Marceau Coupechoux (Telecom ParisTech, France)

11:00-11:30 Break

11:30-12:30 Plenary Speaker: Dr Pravin Bhagwat (CTO, AirTight Networks)

Venue: Lecture Hall 21, Second Floor

12:30-13:00 Invited Paper: Trading Off Efficiency and Reciprocity in Wireless Peer-To-Peer File Sharing

Professor Fernando Paganini (Universidad ORT Uruguay)

Venue: Lecture Hall 21, Second Floor

13:00-14:00 Lunch

14:00-15:30 Session 7: Game-Theoretic Models - II Venue: Seminar room 1, Ground floor

Session Chair: Marceau Coupechoux (Telecom ParisTech, France)

Selfish Task-Driven Routing in Hybrid Networks

Yupeng Li (The University of Hong Kong, Hong Kong)

Haisheng Tan (Jinan University, Guangzhou, P.R. China)

Yongcai Wang (Tsinghua University, P.R. China)

Zhenhua Han (South University of Science and Technology of China, P.R. China)

Francis C.M. Lau (The University of Hong Kong, Hong Kong)

The Economics of Quality Sponsored Data in Wireless Networks

Mohammad Hassan Lotfi (University of Pennsylvania, USA)

Karthikeyan Sundaresan (NEC Labs America, USA)
Mohammad Khojastepour (NEC Labs America, USA)
Sampath Rangarajan (NEC Labs America, USA)

Online Incentive Mechanism Design for Smartphone Crowd-sourcing

Ashwin Subramanian (Birla Institute of Technology and Science, India)
Sai Kanth (National Institute of Technology Warangal, India)
Sharayu Moharir (Tata Institute of Fundamental Research, India)
Rahul Vaze (Tata Institute of Fundamental Research, India)

Normalized Nash Equilibrium for Power Allocation in Femto Base Stations in Heterogeneous Network

Arnob Ghosh (University Of Pennsylvania, USA)
Laura Cottatellucci (EURECOM, France)
Eitan Altman (INRIA, France)

15:45-16:30 Qualcomm: A Perspective on 5G, talk by Dr. Dhananjay Gore's
Venue: Lecture Hall 21, Second Floor

16:30-17:00 High Tea

19:30 Conference Banquet at Meluha the Fern

Thursday, May 28th

09:00-10:00 Plenary Speaker: Professor Venkat Anantharam (UC Berkeley)
Venue: Lecture Hall 21, Second Floor

10:00-10:30 Invited Paper: How Much TV UHF Band Spectrum is Sufficient for Rural Broadband Coverage?

Professor Abhay Karandikar (Indian Institute of Technology Bombay)

Venue: Lecture Hall 21, Second Floor

10:30-11:00 Break

11:00-12:30 Session 8 : Optimization & Network Design Venue: Seminar room 1, Ground floor
Session Chair: Kobi Cohen (University of Illinois at Urbana-Champaign, USA)

Using Data Mules for Sensor Network Resiliency

Jon Crowcroft (University of Cambridge, United Kingdom)
Liron Levin (Ben-Gurion University of the Negev, Israel)
Michael Segal (Ben-Gurion University of the Negev, Israel)

Scalable and Distributed Submodular Maximization with Matroid Constraints

Andrew Clark (Worcester Polytechnic Institute, USA)
Basel Alomair (King Abdulaziz City for Science and Technology, Saudi Arabia)
Linda Bushnell (University of Washington, USA)
Radha Poovendran (University of Washington, USA)

Dual-side Dynamic Controls for Cost Minimization in Mobile Cloud Computing

Systems

Yeongjin Kim (KAIST, Korea)

Jeongho Kwak (KAIST, Korea)

Song Chong (KAIST, Korea)

Session 9: Spectrum Management & Cognitive Radio

Session Chair: Eylem Ekici (The Ohio State University, USA)

Venue: Seminar room 2, Ground floor

Enabling Coexistence of Cognitive Vehicular Networks and IEEE 802.22 Networks Via Optimal Resource Allocation

You Han (The Ohio State University, USA)

Eylem Ekici (The Ohio State University, USA)

Haris Kremo (Toyota InfoTechnology Center, Japan)

Onur Altintas (Toyota InfoTechnology Center, Japan)

Scalable Transmission Over Heterogeneous Networks

Liang Wu (University of Science and Technology of China, P.R. China)

Yi Zhong (University of Science and Technology of China, P.R. China)

Wenyi Zhang (University of Science and Technology of China, P.R. China)

Martin Haenggi (University of Notre Dame, USA)

No More Tears: A No-Regret Approach to Power Control in Dynamically Varying MIMO Networks

Ioannis Stiakogiannakis (Mathematical and Algorithmic Sciences Lab, France Research Center, Huawei Technologies Co. Ltd., France)

Panayotis Mertikopoulos (French National Center for Scientific Research (CNRS) & Laboratoire d'Informatique de Grenoble, France)

Corinne E Touati (INRIA - LIG Grenoble, France)

Full-Duplex Cooperative Cognitive Radio Networks

Sherif ElAzzouni (Nile University, Egypt)

Ozgur Ercetin (Sabanci University, Turkey)

Amr El-Keyi (Nile University, Egypt)

Tamer ElBatt (Faculty of Engineering, Cairo University & WINC, Nile University, Egypt)

Mohammed Nafie (Cairo University & Nile University, Egypt)

12:30-13:00 Invited Paper: Downlink Coverage Probability in a Cellular Network with Ginibre Deployed Base Stations and Nakagami-m Fading Channels
Professor Naoto Miyoshi (Tokyo Institute of Technology)

Venue: Lecture Hall 21, Second Floor

13:00-14:00 Lunch

14:00-15:30 **Session 10: Cross-layer design and optimization** Venue: Seminar room 1, Ground floor
Naoto Miyoshi (Tokyo Institute of Technology, Japan)

Time-Average Stochastic Optimization with Non-convex Decision Set and Its Convergence **Best Paper Award**

Sucha Supittayapornpong (University of Southern California, USA)

Michael J. Neely (University of Southern California, USA)

Integrating Cross-Layer LTE Resources and Energy Management for Increased Powering of Base Stations From

Renewable Energy

Andres Kwasinski (Rochester Institute of Technology, USA)

Alexis Kwasinski (University of Texas, USA)

Downlink Interference Penalty Algorithm for Power Control, Scheduling, and User Association

Jobin Francis (Indian Institute of Science, India)

Suresh Kalyanasundaram (Nokia Siemens Networks, India)

Balamurali Natarajan (Nokia Solutions and Networks, India)

Rajeev Agrawal (Nokia Siemens Networks, USA)

Neelesh B. Mehta (Indian Institute of Science, India)

Distributed Learning Algorithms for Spectrum Sharing in Spatial Random Access Networks **Best Paper Award**

Kobi Cohen (University of Illinois at Urbana-Champaign, USA)

Angelia Nedich (University of Illinois at Urbana-Champaign, USA)

R. Srikant (University of Illinois at Urbana-Champaign, USA)

15:30-16:00 **Invited Paper: Controller Placement for Maximum Throughput Under Delayed CSI**
Professor Eytan Modiano (Massachusetts Institute of Technology)

Venue: Lecture Hall 21, Second Floor

16:00-16:30 **Closing and Vote of Thanks**

16:30-17:00 **High Tea**

Friday, May 29th (Workshops)

14:00-18:00 **SPASWIN (Spatial Stochastic Models for Wireless Networks)**

Venue: Seminar room 1, Ground floor

09:15-12:45 **PHYSCOMNET (Physics-Inspired Paradigms in Wireless Communications and Networks)**

Venue: Seminar room 1, Ground floor