

## Program

### 2015 13th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)

### WiOpt GrEEN Workshop 2015: The 2015 International Workshop on Green and Energy Efficient Networks

#### Workshop on Green and Energy Efficient Networks(GrEEN)

<i>Energy Efficiency Analysis of Energy Harvesting Relay-aided Cooperative Networks</i>	
Zhi wei Zhang (Tsinghua University, P.R. China), Kaizhi Huang (National Digital Switching System Engineering and Technological Research Center, P.R. China), Chen Liang (Tsinghua University, P.R. China), Yunzhou Li (Tsinghua University, P.R. China) .....	1
<i>Energy Efficient Low Complexity Joint Scheduling and Routing for Wireless Networks</i>	
Satya Kumar V (IISc, India), Bhuma Lava Kumar Reddy (IISc, India), Vinod Sharma (Indian Institute of Science, India) .....	8
<i>To Go or Not to Go Green: An Economic Analysis</i>	
Yue Zhang (University of Science and Technology of China, P.R. China), Wenyi Zhang (University of Science and Technology of China, P.R. China), Qiang Ling (University of Science and Technology of China, P.R. China) .....	16
<i>Load Balancing for D2D-Based Relay Communications in Heterogeneous Network</i>	
Zhuo Chen (Huazhong University of Science and Technology, P.R. China), Hongyi Zhao (Huazhong University of Science and Technology, P.R. China), Yang Cao (Huazhong University of Science and Technology, P.R. China), Tao Jiang (Huazhong University of Science and Technology, P.R. China) .....	23

### WiNMeE 2015: The 2015 International Workshop on Wireless Network Measurements and Experimentation

#### WiFi and Cellular Networks

<i>Introducing IEEE 802.11ac Into Existing WLAN Deployment Scenarios</i>	
Mamun Abu-Tair (University of St Andrews, United Kingdom), Saleem N Bhatti (University of St Andrews, United Kingdom) .....	30
<i>Performance Measurement and Analysis of Long Range Wi-Fi Network for Over-the-Sea Communication</i>	
Siddharth Unni (Amrita University, India), Dhanesh Raj (Amrita VishwaVidyapeetham, India), Kalyan Pathapati-Subbu (Amrita Center for Wireless Networks and Applications & Amrita University, India), Sethuraman Rao (Amrita University, India) .....	36
<i>Realtime Detection of Degradation in WiFi Network's Goodput Due to Probe Traffic</i>	
Dheryta Jaisinghani (IIIT Delhi, India), Vinayak Naik (IIIT Delhi, India), Sanjit Kaul (IIIT Delhi, India), Sumit Roy (University of Washington, USA) .....	42
<i>Design, Architecture and Implementation of a Resource Discovery, Reservation and Provisioning Framework for Testbeds</i>	
Donatos Stavropoulos (University of Thessaly, Greece), Aris Dadoukis (University of Thessaly, Greece), Thierry Rakotoarivelo (NICTA-Sydney, Australia), Max Ott (NICTA, Australia), Thanasis Korakis (New York University, USA), Leandros Tassiulas (Yale University, USA) .....	48

# **RAWNET 2015: The 2015 International Workshop on Resource Allocation, Cooperation and Competition in Wireless Networks**

## **Contributed Papers**

### *Optimal WiFi Sensing Via Dynamic Programming*

Abhinav Kumar (IIT-Bombay, India), Sibi Raj B Pillai (IIT Bombay, India), Rahul Vaze (TIFR Mumbai, India), Aditya Gopalan (Indian Institute of Science, India) ..... 54

### *Joint Optimization on Inter-cell Interference Management and User Attachment in LTE-A HetNets*

Ye Liu (Alcatel-Lucent Bell Labs, United Kingdom), Chung Shue Chen (Alcatel-Lucent Bell Labs, France), Chi Wan Sung (City University of Hong Kong, Hong Kong) ..... 62

### *Power Allocation Games on Interference Channels with Complete and Partial Information*

Krishna Chaitanya A (Indian Institute Science, India), Utpal Mukherji (Indian Institute of Science, India), Vinod Sharma (Indian Institute of Science, India) ..... 70

### *On Stochastic Geometry Modeling of WLAN Capacity with Dynamic Sensitive Control*

Zhi wei Zhang (Tsinghua University, P.R. China), Yunzhou Li (Tsinghua University, P.R. China), Kaizhi Huang (National Digital Switching System Engineering and Technological Research Center, P.R. China), Chen Liang (Tsinghua University, P.R. China) ..... 78

# **WiNMeE 2015: The 2015 International Workshop on Wireless Network Measurements and Experimentation**

## **Internet of Things and Smartphones**

### *Performance Analysis of Wireless Devices for a Campus-wide IoT Network*

Niheshkumar Rathod (Indian Institute of Science, India), Pratik Jain (Indian Institute of Science, India), Renu Subramanian (Indian Institute of Science, India), Mallikarjun Sunkenapally (Indian Institute of Science, India), Siddhesh Yawalkar (Indian Institute of Science, India), Bharadwaj Amrutur (Indian Institute of Science, India), Rajesh Sundaresan (Indian Institute of Science, India) ..... 84

### *Are Smartphones Suited for DTN Networking? A Methodological Teardown of Smartphones' WiFi Performance*

Bernhard Distl (ETH Zurich, Switzerland), Franck Legendre (Uepaa! AG - Swiss Alpine Technology, Switzerland) ..... 90

### *Experimental Evaluation of Multihop-Aware Cooperative Relaying*

Torsten Andre (University of Klagenfurt, Austria), Premkumar Arumugam (Linnaeus University, Austria), Christian Bettstetter (University of Klagenfurt, Austria) ..... 96

# **WDC 2015: The 2015 International Workshop on D2D Communications**

## **Session 1**

### *Optimum Exclusion Regions for Interference Protection in Device-to-Device Wireless Networks*

Geordie George (Universitat Pompeu Fabra, Spain), Ratheesh K. Mungara (Universitat Pompeu Fabra (UPF), Spain), Angel Lozano (Universitat Pompeu Fabra (UPF), Spain) ..... 102

### *Coverage Enhancement of PBCH using Reduced Search Viterbi for MTC in LTE-Advanced Networks*

Parthiban Annamalai (Ericsson, India), S K Das (St-Ericsson, India), Jyotsna Bapat (International Institute of Information Technology, India), Debabrata Das (International Institute of Information Technology - Bangalore, India) ..... 110

## **RAWNET 2015: The 2015 International Workshop on Resource Allocation, Cooperation and Competition in Wireless Networks**

### **Contributed Papers**

*Distributed Multiple Access in Multichannel Cognitive Radio Networks Via Potential Games*

Daniel Ospina (The Ohio State University, USA), Eylem Ekici (The Ohio State University, USA) ..... 123

*On a Conservation Law and the Achievable Region for Waiting Time Tail Probabilities in 2-class M/G/1 Queueing Systems*

Manu K. Gupta (IIT Bombay, India), Hemachandra N. (IIT Bombay, India) ..... 131

### **Contributed Papers**

*Standards Compliant CoMP Scheduling Over LTE Heterogeneous Wireless Networks*

Rob Arnott (NEC Telecom MODUS, United Kingdom), Arun Gurung (NEC, USA), Caroline Liang (NEC Telecom Modus, United Kingdom), Yasushi Maruta (NEC, Japan), Duong Pham (NEC, Australia), Narayan Prasad (NEC Labs America, Princeton, USA), Sampath Rangarajan (NEC Labs America, USA), Patricia Wells (NEC Telecom Modus, United Kingdom) ..... 139

*Link Dependence Probabilities in IEEE 802.11 Infrastructure WLANs*

Albert Sunny (Indian Institute of Science, Bangalore, India), Joy Kuri (Indian Institute of Science, India) ..... 148

## **WDC 2015: The 2015 International Workshop on D2D Communications**

### **Session 2**

*Power Constrained DTNs: Risk MDP-LP Approach*

Atul Kumar (IIT Bombay, India), Veeraruna Kavitha (IIT Bombay, India), Hemachandra N. (IIT Bombay, India) ..... 154

*A Transfer Learning Approach for Cache-Enabled Wireless Networks*

Ejder Baştug (CentraleSupélec, France), Mehdi Bennis (Centre of Wireless Communications, University of Oulu, Finland), Mérouane Debbah (Supélec, France) ..... 161

# WiOpt 2015: 2015 13th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)

## Security

### *Beating Resource Constrained Eavesdroppers: A Physical Layer Security Study*

Albert Sunny (Indian Institute of Science, Bangalore, India), Siddhartha Sarma (Indian Institute of Science, India), Joy Kuri (Indian Institute of Science, India) ..... 167

### *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 University, USA) ..... 175

### *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 University, USA) ..... 183

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

Jun Zhao (Carnegie Mellon University, USA), Osman Yağan (Carnegie Mellon University & CyLab, USA), Virgil Gligor (Carnegie Mellon University, USA) ..... 191

## Energy Efficiency - I

### *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) ..... 199

### *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) ..... 207

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

Soo-Hoon Moon (Yonsei University, Korea), Seung-Jae Han (Yonsei University, Korea) ..... 213

### *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) ..... 221

## Invited Paper

### *A Novel Data Center Network Architecture with Zero in-Network Queuing*

Tara Javidi (UCSD, USA), Chang-Heng Wang (University of California, San Diego, USA), Tugcan Aktaş (University of California, San Diego, USA) ..... 229

## Energy Efficiency - II

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

Abbas Kazerouni (Stanford University, USA), Ayfer Özgür (Stanford University, USA) ..... 235

<i>Changing Paradigms for Green Cellular Networks: The Case of Delay-Tolerant Users</i>	243
Samantha Gamboa (Institut Mines-Telecom / Telecom Bretagne, France), Alexander Pelov (Institut Mines-Telecom / Telecom Bretagne, France), Nicolas Montavont (Institut Mines Telecom / Telecom Bretagne, France) .....	
<i>Minimizing Backlog for Downlink of Energy Harvesting Networks</i>	251
Venkhat V (Indian Institute of Technology Bombay, India), Prasanna Chaporkar (IIT Bombay, India), Abhay Karandikar (IIT Bombay, India) .....	
<i>TAES: Traffic-Aware Energy-Saving Base Station Sleeping and Clustering in Cooperative Networks</i>	259
Jihwan Kim (KAIST, Korea), Hyang-Won Lee (Konkuk University, Korea), Song Chong (KAIST, Korea) .....	

## Scheduling and Resource Allocation

<i>On 2-moment Completeness of Non Pre-emptive, Non Anticipative Work Conserving Scheduling Policies in Some Single Class Queues</i>	267
Manu K. Gupta (IIT Bombay, India), Hemachandra N. (IIT Bombay, India) .....	
<i>Cluster-Centric Medium Access Control for WSNs in Structural Health Monitoring</i>	275
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) .....	
<i>Optimizing User Association and Activation Fractions in Heterogeneous Wireless Networks</i>	283
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) .....	
<i>Optimal Radio Access Technology Selection Policy for LTE-WiFi Network</i>	291
Arghyadip Roy (IIT Bombay, India), Abhay Karandikar (IIT Bombay, India) .....	
<i>WiCOD: Wireless Control Plane Serving an all-Optical Data Center</i>	299
Tugcan Aktaş (University of California, San Diego, USA), Chang-Heng Wang (University of California, San Diego, USA), Tara Javidi (UCSD, USA) .....	

## Invited Paper

<i>Spectrum Sharing and Scheduling in D2D-Enabled Dense Cellular Networks</i>	307
Subhashini Krishnasamy (The University of Texas at Austin, USA), Sanjay Shakkottai (The University of Texas at Austin, USA) .....	

## Performance Analysis

<i>Opportunistic Gains of Mobility in Cellular Data Networks</i>	315
Nivine Abbas (Telecom Paristech & Orange Labs, France), Thomas Bonald (Telecom ParisTech, France), Berna Sayrac (Orange Labs, France) .....	
<i>Fairness Analysis of Physical Layer Capture Effects in IEEE 802.11 Networks</i>	323
Yigal Bejerano (Bell-Labs, Alcatel-Lucent, USA), Hyoung-gyu Choi (Yonsei University, Korea), Seung-Jae Han (Yonsei University, Korea) .....	
<i>An Improved IEEE 802.11 CSMA/CA Medium Access Mechanism Through the Introduction of Random Short Delays</i>	331
Nirmala Shenoy (Rochester Institute of Technology & 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) ..... 339

**Game Theoretic Models - I**

*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) ..... 347

*A Game-Theoretic Analysis of User Behaviors in Crowdsourced Wireless Community Networks*

- 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) ..... 355

*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) ..... 363

*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) ..... 371

**Invited Paper**

*Trading Off Efficiency and Reciprocity in Wireless Peer-To-Peer File Sharing*

- Fernando Paganini (Universidad ORT Uruguay, Uruguay), Martin Zubeldia (Massachusetts Institute of Technology, USA), Andres Ferragut (Universidad ORT Uruguay, Uruguay) ..... 379

**Game-Theoretic Models - II**

*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) ..... 387

*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 Laboratories America, USA), Sampath Rangarajan (NEC Labs America, USA) ..... 395

*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 (TIFR Mumbai, India) ..... 403

*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) ..... 411

## Invited Paper

<i>How Much TV UHF Band Spectrum is Sufficient for Rural Broadband Coverage?</i>	
Animesh Kumar (Indian Institute of Technology Bombay, India), Rajeev Kumar (Indain Institute of Technology Bombay, India), Punit Ashok Rathod (Indian Institute of Technology Bombay, India), Abhay Karandikar (IIT Bombay, India) .....	419

## Optimization & Network Design

<i>Using Data Mules for Sensor Network Resiliency</i>	
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) .....	427
<i>Scalable and Distributed Submodular Maximization with Matroid Constraints</i>	
Andrew Clark (Worcester Polytechnic Institute, USA), Basel Alomair (King Abdulaziz City for Science and Technology & University of Washington, Saudi Arabia), Linda Bushnell (University of Washington, USA), Radha Poovendran (University of Washington, USA) .....	435
<i>Dual-side Dynamic Controls for Cost Minimization in Mobile Cloud Computing Systems</i>	
Yeongjin Kim (KAIST, Korea), Jeongho Kwak (KAIST, Korea), Song Chong (KAIST, Korea) .....	443

## Spectrum Management & Cognitive Radio

<i>Enabling Coexistence of Cognitive Vehicular Networks and IEEE 802.22 Networks Via Optimal Resource Allocation</i>	
You Han (The Ohio State University, USA), Eylem Ekici (The Ohio State University, USA), Haris Kremer (Toyota InfoTechnology Center, Japan), Onur Altintas (Toyota InfoTechnology Center, Japan) .....	451
<i>Scalable Transmission Over Heterogenous Networks</i>	
Liang Wu (University of Science and Technology of China, P.R. China), Yi Zhong (University of Science and Technology of China, P.R. China), Wenqi Zhang (University of Science and Technology of China, P.R. China), Martin Haenggi (University of Notre Dame, USA) .....	459
<i>No More Tears: A No-Regret Approach to Power Control in Dynamically Varying MIMO Networks</i>	
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) .....	467
<i>Full-Duplex Cooperative Cognitive Radio Networks</i>	
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) .....	475

## Invited Speaker

<i>Downlink Coverage Probability in a Cellular Network with Ginibre Deployed Base Stations and Nakagami-m Fading Channels</i>	
Naoto Miyoshi (Tokyo Institute of Technology, Japan), Tomoyuki Shirai (Kyushu University, Japan) .....	483

## Cross-layer design and optimization

<i>Time-Average Stochastic Optimization with Non-convex Decision Set and Its Convergence</i> Sucha Supittayapornpong (University of Southern California, USA), Michael J. Neely (University of Southern California, USA) .....	490
<i>Integrating Cross-Layer LTE Resources and Energy Management for Increased Powering of Base Stations From Renewable Energy</i> Andres Kwasinski (Rochester Institute of Technology, USA), Alexis Kwasinski (University of Texas, USA) .....	498
<i>Downlink Interference Penalty Algorithm for Power Control, Scheduling, and User Association</i> Jobin Francis (Indian Institute of Science, India), Suresh Kalyanasundaram (Nokia Networks, India), Balamurali Natarajan (Nokia Solutions and Networks, India), Rajeev Agrawal (Nokia Siemens Networks, USA), Neelesh B. Mehta (Indian Institute of Science, India) .....	506
<i>Distributed Learning Algorithms for Spectrum Sharing in Spatial Random Access Networks</i> 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) .....	513

## Invited Paper

<i>Controller Placement for Maximum Throughput Under Delayed CSI</i> Matthew Johnston (Boeing Research & Technology, USA), Eytan Modiano (MIT, USA) .....	521
--	-----

## PHYSCOMNET 2015: The 2015 4th International Workshop on Physics-Inspired Paradigms in Wireless Communications and Networks

### Invited Papers Session

<i>TrustLP: A Trust-Based Localization Protocol for Wireless Sensor Networks</i> Ash Mohammad Abbas (Aligarh Muslim University, India) .....	529
<i>Spectral Properties of Random Matrices for Stochastic Block Model</i> Konstantin Avrachenkov (INRIA Sophia Antipolis, France), Laura Cottatellucci (EURECOM, France), Arun Kadavankandy (Inria, EURECOM, France) .....	537

### Regular Papers Session

<i>Exact Evaluation of Outage Probability in Correlated Lognormal Shadowing Environment</i> Marwane Ben Hcine (Sup'Com, Tunisia), Ridha R. Bouallegue, B. (Ecole Supérieure des Communications de Tunis, Tunisia) .....	545
<i>Channel Quality Based Adaptive Gossip Flooding Mechanism for AODV</i> Prasanna Jaichandrao Shete (V. J. T. I, Mumbai, India), Raval N Awale (V. J. T. I, Mumbai, India) .....	553

# SpaSWiN 2015: The 2015 International Workshop on Spatial Stochastic Models for Wireless Networks

## Keynote

*What frequency bandwidth to run cellular network in a given country? - a downlink dimensioning problem*

Bartłomiej Błaszczyk (Inria-Ens, France), Mohamed Kadhem Karray (Orange Labs, France) .....	560
---	-----

## Session 1

*Location, location, location: Border effects in interference limited ad hoc networks*

Orestis Georgiou (Toshiba Telecommunications Research Laboratory, United Kingdom), Shanshan Wang (Toshiba Telecommunications Research Laboratory, United Kingdom), Mohammad Z Bocus (Toshiba Research Europe Limited, United Kingdom), Carl P Dettmann (University of Bristol, United Kingdom), Justin P Coon (University of Oxford, United Kingdom) .....	568
--	-----

*Analyzing Interference from Static Cellular Cooperation using the Nearest Neighbour Model*

Anastasios Giovanidis (CNRS - Télécom ParisTech, France), Luis David Alvarez Corrales (Telecom ParisTech, France), Laurent Decreusefond (Telecom ParisTech & CNRS LTCI, France) .....	576
---	-----

*Achieving Non-Zero Information Velocity in Wireless Networks*

Srikanth Iyer (IISc, India), Rahul Vaze (TIFR Mumbai, India) .....	584
--	-----

## Session 2

*Error Performance Analysis in Downlink Cellular Networks with Interference Management*

Laila Hesham Afify (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Hesham ElSawy (King Abdullah University of Science and Technology (KAUST), Saudi Arabia), Tareq Y. Al-Naffouri (King Abdullah University of Science and Technology, USA), Mohamed-Slim Alouini (King Abdullah University of Science and Technology (KAUST), Saudi Arabia) .....	591
--	-----

*Performance laws of large heterogeneous cellular networks*

Bartłomiej Błaszczyk (Inria-Ens, France), Miodrag Jovanovic (Orange Labs, France), Mohamed Kadhem Karray (Orange Labs, France) .....	597
--	-----

*Performance Analysis of Serve on the Move Wireless LANs*

Veeraruna Kavitha (IIT Bombay, India), M Venkateswararao K (Indian Institute of Technology, Bombay, India) .....	605
--	-----