

# MOBIHOC 2012

## Hilton Head Island, South Carolina

### June 11-14, 2012



#### Organizing Committee:

##### GENERAL CHAIR

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Sergio Palazzo (*University of Catania, Italy*)

Charles Perkins (*WiChorus, USA*)

Martha Steenstrup (*Clemson University and Stow Research L.L.C, USA*)

#### Program:

##### Monday, June 11

7:30

8:30 – 18:00

##### Registration open and Continental breakfast

##### Workshops:

- *Airborne Networks and Communications*
- *Emerging Name-Oriented Mobile Networking Design*
- *Pervasive Wireless Healthcare*
- *Sensor-Enhanced Safety and Security in Public Spaces*

Coffee break

Lunch

10:00 – 10:30

12:00 – 13:30

##### Tuesday, June 12

7:30

8:30 – 8:45

8:45 – 10:00

##### Registration open and Continental breakfast

##### Opening Remarks

**Keynote-1: *Urban-Scale Wireless Networks in Unlicensed sub-GHz Bands***, Dr. Edward Knightly

Break

##### Session-1: Applications

Lunch

##### Session-2: Scheduling and Interference

Coffee break

##### Session-3: Sensors and Sensing

##### Poster Session and Reception

10:00 – 10:30

10:30 – 12:00

12:00 – 13:30

13:30 – 15:30

15:30 – 16:00

16:00 – 17:30

18:00 – 20:00

##### Wednesday, June 13

7:30

8:30 – 9:45

9:45 – 10:00

10:00 – 12:00

12:00 – 13:30

13:30 – 15:30

15:30 – 16:00

16:00 – 17:30

19:30 – 21:30

##### Registration open and Continental breakfast

**Keynote-2: *Resilient Distributed Consensus***, Dr. Nitin Vaidya

Coffee break

##### Session-4: Coding and Capacity

Lunch/N2Women

##### Session-5: Routing

Coffee break

##### Session-6: Cognitive Radio

Dinner

##### Thursday, June 14

7:30

8:30 – 10:30

10:30 – 11:00

11:00 – 12:30

12:30 – 14:00

##### Registration open and Continental breakfast

**Panel: *Airborne Networks***, Dr. Robert Ulman, Dr. Robert Bonneau, Dr. Aradhana Narula-Tam, Dr. Bow-Nan Cheng, Dr. Sandip Roy, Dr. Serge Chaumette

Coffee break

##### Session-7: Cellular

Lunch

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## PROGRAM DETAILS:

### Monday, June 11

- **7:30**                    **REGISTRATION OPENS**  
*Location: East Registration Counter*
- **7:30 – 9:00**            **CONTINENTAL BREAKFAST**  
*Location: Ballroom Foyer East*
- **8:30 – 18:00**          **WORKSHOPS:**
  - **Workshop on Airborne Networks and Communications**  
*Location: Ballroom A*
  - **Workshop on Name-Oriented Mobile Networking Design – Architecture, Algorithms, and Applications**  
*Location: Ballroom B*
  - **Workshop on Pervasive Wireless Healthcare**  
*Location: Ballroom C*
  - **Workshop on Sensor Enhanced Security and Privacy in Public Spaces**  
*Location: Ballroom C*
- **10:00 – 10:30**        **COFFEE BREAK**  
*Location: Ballroom Foyer East*
- **12:00 – 13:30**        **LUNCH**  
*Location: Sabal Palm Room*
- **15:00 – 15:30**        **COFFEE BREAK**  
*Location: Ballroom Foyer East*

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## Tuesday, June 12

- **7:30**                    **REGISTRATION OPENS**  
*Location: East Registration Counter*
- **7:30 – 9:00**            **CONTINENTAL BREAKFAST**  
*Location: Ballroom Foyer East*
- **8:30 – 8:45**            **OPENING REMARKS (GENERAL CHAIR AND TECHNICAL PROGRAM CO-CHAIRS)**
- **8:45 – 10:00**         **KEYNOTE: *Urban-Scale Wireless Networks in Unlicensed sub-GHz Bands***  
Speaker: Dr. Edward Knightly, Rice University
- **10:00 – 10:30**        **COFFEE BREAK**  
*Location: Ballroom Foyer East*
- **10:30 – 12:00**        **SESSION-1: Applications**  
Chair: Dr. Cedric Westphal, Huawei
  - *Your Friends Have More Friends Than You Do: Identifying Influential Mobile Users Through Random Walks*  
Bo Han and Aravind Srinivasan (University of Maryland)
  - *Encounter Based Sensor Tracking*  
Andrew Symington and Niki Trigoni (Oxford University)
  - *EVLoc: Integrating Electronic and Visual Signals for Accurate Localization*  
Boying Zhang, Jin Teng, Junda Zhu, Xinfeng Li, Dong Xuan, and Yuan F. Zheng (The Ohio State University)
- **12:00 – 13:30**        **LUNCH**  
*Location: Sabal Palm Room*
- **13:30 – 15:30**        **SESSION-2: Scheduling and Interference**  
Chair: Dr. Srihari Nelakuditi, University of South Carolina, Columbia
  - *Low-complexity Scheduling for Wireless Networks*  
Guanhong Pei and Anil Vullikanti (Virginia Tech)
  - *Stability Analyses of Longest-Queue-First Link Scheduling in MC-MR Wireless Networks*  
Pengjun Wan (Illinois Institute of Technology)
  - *Enabling Real-Time Interference Alignment: Promises and Challenges*  
Kyle Miller (Cisco Technologies), Atresh Sanne (University of Texas at Austin), Kannan Srinivasan (The Ohio State University), and Sriram Vishwanath (University of Texas at Austin)

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- *Optimization Schemes for Protective Jamming*  
Swaminathan Sankararaman (University of Arizona, USA) Karim Abu-Affash (Ben Gurion University, Israel), Alon Efrat (University of Arizona, USA), Sylvester David Eriksson-Bique (University of Helsinki, Finland), Valentin Polishchuk (University of Helsinki, Finland), Srinivasan Ramasubramanian (University of Arizona, USA), and Michael Segal (Ben Gurion University, Israel)
- **15:30 – 16:00**      **COFFEE BREAK**  
*Location: Ballroom Foyer East*
- **16:00 – 17:30**      **SESSION-3: Sensors and Sensing**  
Chair: Dr. Kevin Stanley, University of Saskatchewan
  - *Taming Uncertainties in Real-Time Routing for Wireless Networked Sensing and Control*  
Xiaohui Liu, Hongwei Zhang, Qiao Xiang, Xin Che, and Xi Ju (Wayne State University)
  - *Minimum-Energy Connected Coverage in Wireless Sensor Networks with Omni-Directional and Directional Features*  
Kai Han, Liu Xiang, Jun Luo (School of Computer Engineering, Nanyang Technological University), and Yang Liu (School of Information Sciences and Engineering, Henan University of Technology)
  - *Probabilistic Missing-tag Detection and Energy-Time Tradeoff in Large-scale RFID Systems*  
Wen Luo, Shigang Chen, Tao Li, and Yan Qiao (University of Florida)
- **18:00 – 20:00**      **POSTER SESSION AND RECEPTION**  
*Location: Sabal Palm Room*
  - *Towards Intelligent Antenna Selection in IEEE 802.15.4 Wireless Sensor Networks*  
Mubashir Husain Rehmani; Thierry Alves; Stephane Lohier; Abderrezak Rachedi; Benoit Poussot
  - *Localization using Bluetooth Device Names*  
Troy A. Johnson; Patrick Seeling
  - *Channel Width Assignment using Relative Backlog: Extending Back-pressure to Physical Layer*  
Parth H. Pathak; Sankalp Nimbhorkar; Rudra Dutta
  - *Reliable Link Lifetime-Based Cluster-Head Election In Wireless Ad Hoc Networks*  
Dongsheng Chen; Alireza Babaei; Prathima Agrawal
  - *Price-Reward for Data Relaying and Handover Management in Wireless Networks*  
Muhammad Shoaib Saleem; Eric Renault
  - *JIM-Beam: Using Spatial Randomness to Build Jamming-Resilient Wireless Flooding Networks*  
Jerry T. Chiang; Dongho Kim; Yih-Chun Hu
  - *Error Minimizing Jammer Localization Through Smart Estimation of Ambient Noise*  
Zhenhua Liu; Hongbo Liu; Wenyuan Xu; Yingying Chen

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- *A Novel Misbehavior Evaluation With Dempster-Shafer Theory in Wireless Sensor Networks*  
Muhammad R Ahmed; Xu Huang; Dharmendra Sharma
- *Your Smartphone Can Watch the Road and You: Mobile Assistant for Inattentive Drivers*  
Sanjeev Singh; Srihari Nelakuditi; Romit Roy Choudhury; Yan Tong
- *A Distributed Channel Selection Scheme for Multi-Channel Wireless Sensor Networks*  
Amitangshu Pal; Asis Nasipuri
- *Can Smartphone Sensors Enhance Kinect Experience?*  
Rufeng Meng; Jason Isenhower; Chuan Qin; Srihari Nelakuditi

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## Wednesday, June 13

- **7:30**                    **REGISTRATION OPENS**  
*Location: East Registration Counter*
- **7:30 – 9:00**           **CONTINENTAL BREAKFAST**  
*Location: Ballroom Foyer East*
- **8:30 – 9:45**           **KEYNOTE: Resilient Distributed Consensus**  
Speaker: Dr. Nitin Vaidya, University of Illinois at Urbana-Champaign
- **9:45 – 10:00**        **COFFEE BREAK**  
*Location: Ballroom Foyer East*
- **10:00 – 12:00**       **SESSION-4: Coding and Capacity**  
Chair: Dr. Patrick Seeling, Central Michigan University
  - *Adaptive Network Coding for Scheduling Real-time Traffic with Hard Deadlines*  
Lei Yang (Arizona State University), Yalin E. Sagduyu, and Jason H. Li (Intelligent Automation, Inc.)
  - *Distributed Network Coding Based Opportunistic Routing for Multicast*  
Abdallah Khreishah (Temple University), Issa M. Khalil (UAE University), and Jie Wu (Temple University)
  - *Throughput of Rateless Codes over Broadcast Erasure Channels*  
Yang Yang and Ness B. Shroff (The Ohio State University)
  - *Closing the Gap in the Multicast Capacity of Hybrid Wireless Networks*  
Shaojie Tang (Illinois Institute of Technology), Xufei Mao (Tsinghua University), Taeho Jung, Junze Han, Xiang-Yang Li, Boliu Xu, and Chao Ma (Illinois Institute of Technology)
- **12:00 – 13:30**       **LUNCH**  
*Location: Sabal Palm Room*
- **13:30 – 15:30**       **SESSION-5: Routing**  
Chair: Dr. Lei Yang, Intel Labs
  - *Serendipity: Enabling Remote Computing among Intermittently Connected Mobile Devices*  
Cong Shi, Vasileios Lakafosis, Mostafa Ammar, and Ellen Zegura (Georgia Institute of Technology)
  - *Oblivious Low-Congestion Multicast Routing in Wireless Networks*  
Antonio Carzaniga, Koorosh Khazaei, and Fabian Kuhn (University of Lugano, Switzerland)
  - *Dissemination in Opportunistic Social Networks: the Role of Temporal Communities*  
Anna-Kaisa Pietilainen and Christophe Diot (Technicolor)

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- *Optimal Energy-Aware Epidemic Routing in DTNs*  
MHR Khouzani (Ohio State University), Soheil Eshghi, Saswati Sarkar, Santosh S Venkatesh (University of Pennsylvania), and Ness B Shroff (Ohio State University)
- **15:30 – 16:00**      **COFFEE BREAK**  
*Location: Ballroom Foyer East*
- **16:00 – 17:30**      **SESSION-6: Cognitive Radio**  
Chair: Dr. Stephane Lohier, University Paris-Est
  - *Transmission Delay in Large Scale Ad Hoc Cognitive Radio Networks*  
Zhuotao Liu, Xinbing Wang, Wentao Luan (Shanghai Jiaotong University, China), and Songwu Lu (University of California, Los Angeles)
  - *Enforcing Dynamic Spectrum Access with Spectrum Permits*  
Lei Yang (Intel Labs, Hillsboro, OR), Zengbin Zhang, Ben Y. Zhao, Christopher Kruegel, Haitao Zheng (UCSB)
  - *Spatial Spectrum Access Game: Nash Equilibria and Distributed Learning*  
Xu Chen and Jianwei Huang (The Chinese University of Hong Kong)
- **19:30 – 21:30**      **DINNER**  
*Location: Basshead Deck*

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## Thursday, June 14

- **7:30**                    **REGISTRATION OPENS**  
*Location: East Registration Counter*
  
- **7:30 – 9:00**        **CONTINENTAL BREAKFAST**  
*Location: Ballroom Foyer East*
  
- **8:30 – 10:30**      **Panel: Airborne Networks**
  - *Organizers:* Kamesh Namuduri, Yan Wan, and Mahadevan Gomathisankaran, University of North Texas
  - *Moderator:* Dr. Ravi Pendse, Wichita State University
  - *Panelists:*
    - Robert Ulman (Army Research Office)
    - Robert Bonneau (Air Force Office of Scientific Research)
    - Aradhana Narula-Tam (MIT Lincoln Laboratory)
    - Bow-Nan Cheng (MIT Lincoln Laboratory)
    - Sandip Roy (Washington State University)
    - Serge Chaumette (LaBRI, Universite Bordeaux 1, France)
  
- **10:30 – 11:00**    **COFFEE BREAK**  
*Location: Ballroom Foyer East*
  
- **11:00 – 12:30**    **Session-7: Cellular**  
*Chair: Dr. Yiming Ji, University of South Carolina Beaufort*
  - Design and Implementation of an Integrated Beamformer and Uplink Scheduler for OFDMA Femtocells  
Mustafa Y. Arslan (University of California Riverside), Karthikeyan Sundaresan (NEC Laboratories America, Inc.), Srikanth V. Krishnamurthy (University of California Riverside), and Sampath Rangarajan (NEC Laboratories America, Inc.)
  - A Case for Adaptive Sub-carrier Level Power Allocation in OFDMA Networks  
Shailendra Singh, Moloud Shahbazi (UC Riverside) Konstantinos Pelechrinis (University of Pittsburgh), Karthikeyan Sundaresan (NEC Labs America Inc.), Srikanth V. Krishnamurthy (UC Riverside), and Sateesh Addepalli (Cisco Systems, Inc.)
  - A Distributed Resource Management Framework for Interference Mitigation in OFDMA Femtocell Networks  
Jongwon Yoon (University of Wisconsin Madison), Mustafa Y. Arslan (University of California Riverside), Karthikeyan Sundaresan (NEC Labs America), Srikanth V. Krishnamurthy (University of California Riverside), and Suman Banerjee (University of Wisconsin Madison)



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- **12:30 – 14:00**      **LUNCH**  
*Location: Sabal Palm Room*
- **14:00**              **CONFERENCE CLOSING**

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