



# RealMAN 2006

The Second International Workshop on  
Multi-hop Ad Hoc Networks: from theory to reality  
26 May 2006, Florence, Italy  
<http://www.cl.cam.ac.uk/realman>

co-located with ACM MobiHoc 2006  
22 – 26 May 2006, Florence, Italy



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## Technical Program

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**8:20 – 8:30**      **Welcome**

**8:30 – 9:15**      **Keynote Speech**

**Multi-Channel Wireless Networks: Capacity, Protocols and Experimentation**  
Nitin H. Vaidya, University of Illinois at Urbana-Champaign, USA

**9:15 – 10:45**      **Session I: Ad hoc and Mesh Networks**

*Session Chair: Jörg Ott, Helsinki University of Technology, Finland*

**A Real-World Framework to Evaluate Cross-Layer Protocols for Wireless Multihop Networks**  
Yves Igor Jerschow, Björn Scheuermann, Christian Lochert, Martin Mauve

**Methods for Restoring MAC Layer Fairness in IEEE 802.11 Networks with Physical Layer Capture**  
Sachin Ganu, Kishore Ramachandran, Marco Gruteser, Ivan Seskar

**The Real Gain of Cross-Layer Routing in Wireless Mesh Networks**  
Luigi Iannone, Konstantin Kabassanov, Serge Fdida

**Design and Implementation of a Multi-Channel Multi-Interface Network**  
Chandrakanth Chereddi, Pradeep Kyasanur, Nitin H. Vaidya

**10:45 – 11:15**      **Coffee Break**

**11:15 – 12:45**      **Session II: Mobility**

*Session Chair: James Scott, Intel Research Cambridge, UK*

**A Community Based Mobility Model for Ad Hoc Network Research**  
Mirco Musolesi, Cecilia Mascolo

**Analyzing the Impact of Mobility in Ad Hoc Networks**  
V. Lenders, J. Wagner, M. May

**OPT - Online Person Tracking System for Context-awareness in Wireless Personal Network**  
Xueli An, Jing Wang, R. Venkatesha Prasad, I.G.M.M. Niemegeers

**On Profiling Mobility and Predicting Locations of Wireless Users**  
Joy Ghosh, Matthew Beal, Hung Ngo, Chunming Qiao

**12:45 – 14:00**      **Lunch Break**

## 14:00 – 15:30 Posters and Demos Session

### High-Performance Multi-Radio WSN Platform

Mikko Kohvakka, Tero Arpinen, Marko Hännikäinen, Timo D. Hämäläinen

### AHR: A Two-State Adaptive Mechanism for Link Connectivity Maintenance in AODV

Carles Gomez, Alex Cuevas, Josep Paradells

### Lessons gained from test beds of ad hoc networks and perspectives

Yvon Gourhant, F. Jan, L. Reynaud, R. Narayanan

### Demo: A Cross-Layer Protocol Evaluation Framework on ESB Nodes

Yves Igor Jerschow, Björn Scheuermann, Christian Lochert, Martin Mauve

### Backup and Bypass: Introducing DTN-based Ad-hoc Networking to Mobile Phones

Omar Mukhtar, Jörg Ott

### The Real Gain of Cross-Layer Routing in Wireless Mesh Networks

Luigi Iannone, Konstantin Kabassanov, Serge Fdida

### On-demand Software Management in Sensor Networks using Profiling Techniques

Zheng Yao, Zhengyu Lu, Holger Marquardt, Gerhard Fuchs, Sébastien Truchat, Falko Dressler

### Fast and Flexible Tool for the Generation, Maintenance and Evaluation of Hierarchical Structures in Diverse Networks

Kyriakos Manousakis, Anthony J. McAuley

### OPT - Online Person Tracking System for Context-awareness in Wireless Personal Network

Xueli An, Jing Wang, R. Venkatesha Prasad, I.G.M.M. Niemegeers

### Perspeckz-64: Physical Test-bed for Performance Evaluation of MAC and Networking Algorithms for Specknets

K.J. Wong, D.K. Arvind

### A Reliable Sensor Data Collection Network Using Unmanned Aircraft

Daniel Henkel, Cory Dixon, Jack Elston, Timothy X Brown

### Demonstrating Optimized Seamless Handover of Multi-Hop Networks

S. Giordano, M. Kulig, D. Lenzarini, H. Nguyen, A. Puiatti, S. Vanini

### Demonstration of Worldsens: A Fast Prototyping and Performance Evaluation of Wireless Sensor Network Applications & Protocols

Guillaume Chelius, Antoine Fraboulet, Eric Fleury

## 15:15 – 15:45 Coffee Break

## 15:45 – 17:15 Session III: Sensor Networks

*Session Chair: Silvia Giordano, SUPSI, CH*

### TWIST: A Scalable and Reconfigurable Testbed for Wireless Indoor Experiments with Sensor Networks

Vlado Handziski, Andreas Köpke, Andreas Willig, Adam Wolisz

### SpeckMAC: Low-power Decentralised MAC Protocols for Low Data Rate Transmissions in Sepcknets

K.J. Wong, D.K. Arvind

### Supervised Learning in Sensor Networks: New Approaches with Routing, Reliability Optimizations

Yong Wang, Margaret Martonosi, Li-Shiuan Peh

### Ad-Hoc Multicast Routing on Resource-Limited Sensor Nodes

Bor-rong Chen, KK Muniswamy-Reddy, Matt Welsh

## 17:15 – 18:15 Panel: How REAL must be the ad hoc network research?

**Organiser:** Marco Conti, IIT-CNR, Italy

**Panelists:** Jon Crowcroft, University of Cambridge, UK

David B. Johnson, Rice University, USA

Margaret Martonosi, Princeton University, USA

Chunming Qiao, The State University of New York at Buffalo, USA

Adam Wolisz, Technical University of Berlin, Germany