

Contents

Part I Applications

Snowcloud: A Complete Data Gathering System for Snow Hydrology Research	3
Christian Skalka and Jeffrey Frolik	
The Big Night Out: Experiences from Tracking Flying Foxes with Delay-Tolerant Wireless Networking	15
Philipp Sommer, Branislav Kusy, Adam McKeown and Raja Jurdak	
On Rendezvous in Mobile Sensing Networks	29
Olga Saukh, David Hasenfratz, Christoph Walser and Lothar Thiele	
Real-Life Deployment of Bluetooth Scatternets for Wireless Sensor Networks	43
Michael Methfessel, Stefan Lange, Rolf Kraemer, Mario Zessack, Peter Kollermann and Steffen Peter	

Part II Poster and Demo Abstracts

Poster Abstract: Velux-Lab—Monitoring a Nearly Zero Energy Building	55
Alessandro Sivieri	
Poster Abstract: Visualization and Monitoring Tool for Sensor Devices.	61
Lubomir Mraz and Milan Simek	

Demo Abstract: MakeSense—Managing Reproducible WSNs Experiments	65
Rémy Léone, Jérémie Leguay, Paolo Medagliani and Claude Chaudet	
Demo Abstract: Cross Layer Design for Low Power, Low Delay, High Reliability Radio Duty-Cycled Multi-hop WSNs	73
Eoin O’Connell and Brendan O’Flynn	
Poster Abstract: Outdoors Range Measurements with Zolertia Z1 Motes and Contiki	79
Marie-Paule Uwase, Nguyen Thanh Long, Jacques Tiberghien, Kris Steenhaut and Jean-Michel Dricot	
Poster Abstract: iBASt—Instantaneous Bridge Assessment Based on Sensor Network Technology	85
Richard Mietz, Carsten Buschmann, Dennis Boldt, Kay Römer and Stefan Fischer	
Demo Abstract: SmartSync; When Toys Meet Wireless Sensor Networks	91
Fiona Edwards-Murphy, Michele Magno, Aidan Frost, Amy Long, Naomi Corbett and Emanuel Popovici	
Poster Abstract: Link Quality Estimation—A Case Study for On-line Supervised Learning in Wireless Sensor Networks	97
Eduardo Feo-Flushing, Michal Kudelski, Jawad Nagi, Luca M. Gambardella and Gianni A. Di Caro	
Poster Abstract: An Experimental Study of Attacks on the Availability of Glossy	103
Kasun Hewage and Thiemo Voigt	
 Part III Low-level Components	
Node Identification Using Clock Skew	111
Ibrahim Ethem Bagci and Utz Roedig	
MagoNode: Advantages of RF Front-ends in Wireless Sensor Networks	125
Mario Paoli, Antonio Lo Russo, Ugo Maria Colesanti and Andrea Vitaletti	

MIMOSA, a Highly Sensitive and Accurate Power Measurement Technique for Low-Power Systems	139
Markus Buschhoff, Christian Günter and Olaf Spinczyk	

A Remotely Programmable Modular Testbed for Backscatter Sensor Network Research	153
Eleftherios Kampianakis, John Kimionis, Konstantinos Tountas and Aggelos Bletsas	

Part IV Networking

A Scalable Redundant TDMA Protocol for High-Density WSNs Inside an Aircraft	165
Johannes Blanckenstein, Javier Garcia-Jimenez, Jirka Klaue and Holger Karl	

Do We Really Need a Priori Link Quality Estimation?	179
Vasilis Vasilopoulos, Daniele Puccinelli and Marco Zúñiga	

Redundant Border Routers for Mission-Critical 6LoWPAN Networks	195
Laurent Deru, Sébastien Dawans, Mathieu Ocaña, Bruno Quoitin and Olivier Bonaventure	

Using Directional Transmissions and Receptions to Reduce Contention in Wireless Sensor Networks	205
Ambuj Varshney, Thiemo Voigt and Luca Mottola	

Part V Energy

Energy Parameter Estimation in Solar Powered Wireless Sensor Networks	217
Mustafa Mousa and Christian Claudel	

Experiences with Sensors for Energy Efficiency in Commercial Buildings	231
Branislav Kusy, Rajib Rana, Phil Valencia, Raja Jurdak and Josh Wall	

**Wireless Sensor Networks for Building Monitoring Deployment
Challenges, Tools and Experience 245**
Alan McGibney, Suzanne Lesecq, Claire Guyon-Gardeux,
Safietou R. Thior, Davide Pusceddu, Laurent-Frederic Ducreux,
François Pacull and Dirk Pesch

**Long Term WSN Monitoring for Energy Efficiency
in EU Cultural Heritage Buildings 253**
Femi Aderohunmu, Domenico Balsamo, Giacomo Paci
and Davide Brunelli

Real-World Wireless Sensor Networks

Proceedings of the 5th International Workshop,

REALWSN 2013, Como (Italy), September 19-20, 2013

Langendoen, K.; Hu, W.; Ferrari, F.; Zimmerling, M.;

Mottola, L. (Eds.)

2014, XII, 261 p. 126 illus., Hardcover

ISBN: 978-3-319-03070-8