

2017 IEEE 42nd Conference on Local Computer Networks Workshops (LCN Workshops 2017)

**Singapore
9 October 2017**



**IEEE Catalog Number: CFP1725T-POD
ISBN: 978-1-5090-6585-1**

**Copyright © 2017 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP1725T-POD
ISBN (Print-On-Demand):	978-1-5090-6585-1
ISBN (Online):	978-1-5090-6584-4

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

2017 IEEE 42nd Conference on Local Computer Networks Workshops

LCN Workshops 2017

Table of Contents

SenseApp 2017 Message from the Chairs.....	ix
SenseApp 2017 TPC and Reviewers.....	x
SenseApp 2017 Keynote Address.....	xi
WECNet 2017 Message from the Chairs.....	xii
WECNet 2017 TPC and Reviewers.....	xiii
WECNET 2017 Keynote.....	xiv
On-Move 2017 Message from the Chairs.....	xv
On-Move 2017 TPC Members.....	xvi
On-Move 2017 Keynote.....	xvii
NSWMD 2017 Message from the Chairs.....	xviii
NSWMD 2017 TPC.....	xix
5G-IoT 2017 Message from the Chairs.....	xx
5G-IoT 2017 TPC and Reviewers.....	xxi

Twelfth IEEE International Workshop on Practical Issues in Building Sensor Network Applications (IEEE SenseApp 2017)

Session 1: Energy-Efficient Operation of Wireless Sensor Networks

REAPer — Adaptive Micro-Source Energy-Harvester for Wireless Sensor Nodes.....	1
<i>Ulf Kulau, Daniel Bräckelmann, Felix Büsching, Sebastian Schildt, and Lars Wolf</i>	
Hierarchical Classification of Low Resolution Thermal Images for Occupancy Estimation.....	9
<i>Liam Walmsley-Eyre and Rachel Cardell-Oliver</i>	
Plug into a Plant: Using a Plant Microbial Fuel Cell and a Wake-Up Radio for an Energy Neutral Sensing System.....	18
<i>Rajeev Piyare, Amy L. Murphy, Pietro Tosato, and Davide Brunelli</i>	

Session 2: Practical Experiences from Sensor Network Deployments

Automating Human Motor Performance Ability Testing: The Case of Backward Step Detection	26
<i>Caroline Göricke, Andreas Reinhardt, Horst Krüsemann, and Regina Semmler-Ludwig</i>	
WHISPER: Wirelessly Synchronized Distributed Audio Sensor Platform	35
<i>Ilya Kiselev, Enea Ceolini, Daniel Wong, Alain de Cheveigne, and Shih-Chii Liu</i>	
An Optical-Camera Complement to a PIR Sensor Array for Intrusion Detection and Classification in an Outdoor Environment	44
<i>Tarun Choubisa, Sampad B. Mohanty, Mohan Kashyap, Shivangi Gambhir, Kodur Krishna Chaitanya, Sridhar A., and P. Vijay Kumar</i>	
Mobile Data Collection from Sensor Networks with Range-Dependent Data Rates	53
<i>Noralifah Annuar, Neil Bergmann, Raja Jurdak, and Branislav Kusy</i>	

The International Workshop on Enabling Communications and Networking for Future Internet (WECNet'17)

Vehicular Speed Learning in the Future Smart-Cities' Paradigm	61
<i>Fadi Al-Turjman</i>	
A Distributed Energy-Aware Cooperative Multimedia Delivery Solution	66
<i>John Monks and Gabriel-Miro Muntean</i>	

11th Workshop on User MObility and Vehicular Networks (ON-MOVE 2017)

OnMove Session 1

Selection of Energy Efficient Routing Protocol for Irrigation Enabled by Wireless Sensor Network	75
<i>Zainal Abedin, Sukanta Paul, Sharmin Akhter, Kazy Noor-e-Alam Siddiquee, Mohammad Shahadat Hossain, and Karl Andersson</i>	
QoS-Oriented Adaptation Management in Networked Multi-vehicle Cruise Control Systems	82
<i>Arun Adiththan and Kaliappa Ravindran</i>	
Enhancement of AODV Routing Protocol by Using Large Vehicles in VANETs on Highway	91
<i>Taku Noguchi and Kanta Hayashi</i>	

OnMove Session 2

Users on the Move: On Relationships Between QoE Ratings, Data Volumes and Intentions to Churn	97
<i>Markus Fiedler, Katrien De Moor, Hemanth Ravuri, Prithvi Tanneedi, and Mounika Chandiri</i>	
Defending Against Intrusion of Malicious UAVs with Networked UAV Defense Swarms	103
<i>Matthias R. Brust, Gregoire Danoy, Pascal Bouvry, Dren Gashi, Himadri Pathak, and Mike P. Gonçalves</i>	

The 2nd IEEE International Workshop on Networks of Sensors, Wearable, and Medical Devices (NSWMD)

NSWMD Paper Session 1

Security and Privacy in the Internet of Medical Things: Taxonomy and Risk Assessment	112
<i>Faisal Alsubaei, Abdullah Abuhussein, and Sajjan Shiva</i>	
AZSPM: Autonomic Zero-Knowledge Security Provisioning Model for Medical Control Systems in Fog Computing Environments	121
<i>Junaid Chaudhry, Kashif Saleem, Rafiqul Islam, Ali Selamat, Mudassar Ahmad, and Craig Valli</i>	
SPHERE in a Box: Practical and Scalable EurValve Activity Monitoring Smart Home Kit	128
<i>James Pope, Ryan McConville, Michal Kozlowski, Xenofon Fafoutis, Raul Santos-Rodriguez, Robert J. Piechocki, and Ian Craddock</i>	

IEEE International Workshop on 5G in Internet of Things (5G-IoT)

5G-IoT Paper Session 1

Load Aware Routing in Wireless Mesh Networks: Which is the Right Metric?	136
<i>Nemesio A. Macabale Jr.</i>	
A Time Sharing Based Approach to Accommodate Similar Gain Users in NOMA for 5G Networks	142
<i>Muhammad Basit Shahab and Soo Young Shin</i>	

5G-IoT Paper Session 2

Algorithm for Trust Based Policy Hidden Communication in the Internet of Things	148
<i>Naresh Peshwe and Debasis Das</i>	
Secure FoTA Object for IoT	154
<i>Krishna Doddapaneni, Ravi Lakkundi, Suhas Rao, Sujay Gururaj Kulkarni, and Bhargav Bhat</i>	
I-DTMC: An Integrated-Discrete Time Markov Chain Model for Performance Analysis in Future WLANs	160
<i>Rashid Ali, Yousaf Bin Zikria, Farhan Amin, Byung-Seo Kim, and Sung Won Kim</i>	
Wireless Communication Aspects in the Internet of Things: An Overview	165
<i>Umit Deniz Ulusar, Gurkan Celik, and Fadi Al-Turjman</i>	
An Algorithm for Alleviating the Effect of Hotspot on Throughput in Wireless Sensor Networks	170
<i>Abdul Rehman, Sadia Din, Anand Paul, and Waqar Ahmad</i>	
SDIoT: Software Defined Internet of Thing to Analyze Big Data in Smart Cities	175
<i>Sadia Din, M. Mazhar Rathore, Awais Ahmad, Anand Paul, and Murad Khan</i>	
Enhancement in Data-Recovery and Re-Transmit Mechanisms of TCP	183
<i>Mudassar Ahmad, Muhammad Asif Habib, Rehan Ashraf, and Muhammad Shahid</i>	
Author Index	188