Contents

Invited Papers

SNW-MAC: An Asynchronous Protocol Leveraging Wake-Up Receivers for Data Gathering in Star Networks .................................................. 3
   Fayçal Ait Aoudia, Matthieu Gautier, Michele Magno, Olivier Berder, and Luca Benini

Towards P300-Based Mind-Control: A Non-invasive Quickly Trained BCI for Remote Car Driving ....................................................... 15
   Daniela De Venuto, Valerio F. Annese, and Giovanni Mezzina

A Dual Processor Energy-Efficient Platform with Multi-core Accelerator for Smart Sensing ....................................................... 29
   Antonio Pullini, Stefan Mach, Michele Magno, and Luca Benini

Smart Sensing Devices for Logistics Application ....................................................... 41
   Mojtaba Masoudinejad, Aswin Karthik Ramachandran Venkatapathy, Jan Emmerich, and Andreas Riesner

Presented Paper

SHelmet: An Intelligent Self-sustaining Multi Sensors Smart Helmet for Bikers ....................................................... 55
   Michele Magno, Angelo D’Aloia, Tommaso Polonelli, Lorenzo Spadaro, and Luca Benini

iHouse: A Voice-Controlled, Centralized, Retrospective Smart Home ....................................................... 68
   Benjamin Völker, Tobias Schubert, and Bernd Becker

PackSens: A Condition and Transport Monitoring System Based on an Embedded Sensor Platform ....................................................... 81
   Marc Pfeifer, Tobias Schubert, and Bernd Becker

Smart LED Lights Control Using Nano-Power Wake Up Radios ....................................................... 93
   Tommaso Polonelli and Michele Magno

Monitoring Approach of Cyber-Physical Systems by Quality Measures ....................................................... 105
   Pedro Merino Laso, David Brosset, and John Puentes

Energy Consumption and Data Amount Reduction Using Object Detection on Embedded Platform ....................................................... 118
   Boris Snajder, Zoran Kalafatic, and Vedran Bilas
Reconfigurable and Long-Range Wireless Sensor Node for Long Time Operation ................................................................. 130
   Nabil Islam, Fabien Ferrero, Leonardo Lizzi, Christophe Danchesi, and Stephane Boudaud

Comparative Analysis of Simulation and Real-World Energy Consumption for Battery-Life Estimation of Low-Power IoT (Internet of Things) Deployment in Varying Environmental Conditions Using Zolertia Z1 Motes ................................................................. 137
   Ashutosh Bandekar, Akshay Kotian, and Ahmad Y. Javaid

Comparison of Power-Efficiency of Asthmatic Wheezeing Wearable Sensor Architectures ................................................. 149
   Dinko Oletic and Vedran Bilas

Miniaturised Flame Ionisation Detector for Explosion Protection in Civil Sewerage Networks .............................................. 163
   Jan Förster, Winfred Kuipers, Christian Koch, Christian Lenz, Steffen Ziesche, and Dominik Jurkow

Relative Translation and Rotation Calibration Between Optical Target and Inertial Measurement Unit ..................................... 175
   Manthan Pancholi, Svilen Dimitrov, Norbert Schmitz, Sebastian Lampe, and Didier Stricker

Smart-Bike as One of the Ways to Ensure Sustainable Mobility in Smart Cities ................................................................. 187
   Irina Makarova, Ksenia Shubenkova, Anton Pashkevich, and Aleksey Boyko

Author Index ........................................................................................................................................................................... 199
Sensor Systems and Software
7th International Conference, S-Cube 2016, Sophia Antipolis, Nice, France, December 1-2, 2016, Revised Selected Papers
Magno, M.; Ferrero, F.; Bilas, V. (Eds.)
2017, X, 199 p. 102 illus., Softcover
ISBN: 978-3-319-61562-2