## A Decade of Low-Power Wireless

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## I. ABSTRACT

Energy has always been the number one issue in wireless sensor networks, both because of the resource constraints of sensor nodes and because of the need for untethered operation. In particular, the energy footprint of wireless communication has been the object of a great deal of interest over the past decade. Many applications of sensor networks require nodes to operate for months or even years without supervision, thus making it imperative for nodes to employ low-power radios and to duty-cycle them. To complicate matters further, lowpower radios are notoriously exposed to the vagaries of RF propagation. The challenge of achieving energy-efficient and reasonably reliable communication over lossy links has shaped a large body of experimental research, mostly driven by the popular Berkeley motes. In this talk, I will illustrate the highlights of a decade of low-power wireless research, with an emphasis on the key accomplishments in medium access and routing.

## II. BIOGRAPHY

Daniele Puccinelli is a research scientist at the Networking Laboratory of the University of Applied Sciences of Southern Switzerland. He holds a Ph.D. in Electrical Engineering from the University of Notre Dame in Notre Dame, Indiana, USA. His research interests lie in the fields of low-power wireless, resource-constrained networking, and opportunistic communication and computing. He was presented the Best Demo Award at IEEE WoWMoM '09. He was the Program Chair for the IEEE WoWMoM '09 Ph.D. and Work In Progress Forum and the IEEE PerCom workshop PerSeNS '10. He also co-founded and co-organized the IEEE PerCom PerMoby workshop on pervasive mobility and served as the Program Co-Chair for its first two editions in 2012 and 2013. He is serving as the Program Co-Chair of AOC 2013.