Bringing Intelligence to Energy Efficiency

CS Colloquium

**Speaker:** Milos Manic, Associate Professor, Computer Science

**Date & Time:** Dec 9, 2013, 3:30 – 4:20 PM

**Place:** Engineering Physics Building, EP 205

**Abstract**

We have all been witnessing the ever-increasing dependence on energy, especially evident in recent years. For example, while U.S transportation uses about 70% of petroleum more than it produces, the buildings consume 40% of total energy produced in U.S. In addition, while ubiquitous smart devices around us “think” on our behalf, make decisions on which road we take and what we do (gps, smartphones, smart meters devices), their whole existence relies on the same fact—that they are powered and “alive”. Unfortunately, (re)sources of energy have not been growing proportionally. This has been driving the need for more efficient and “intelligent” usage of energy.

Such intelligent, i.e. adaptive, autonomic, and self-organizing behavior has already entered the world of energy efficiency. Today’s cars make intelligent decisions on cylinder deactivation, while today’s houses adaptively control energy consumption based on multiple factors. The benefits of energy efficiency are manifold, from lower energy bills, improved air quality and increased human comfort and capabilities, to reduced greenhouse gases and increased energy security. Today’s presentation will focus on technologies behind intelligence in energy efficiency providing examples from projects recently funded by Department of Energy and National Science Foundation.

**Bio**

Dr. Milos Manic is Associate Professor of Computer Science at the University of Idaho. He received the Ph.D. in CS at the University of Idaho, and the M.S. and Dipl. Ing. at the University of Nis, Serbia. Located in Idaho Falls, ID, he works closely with the Idaho National Laboratory. His research interests include Computational Intelligence, Intelligent Control, Data Mining, and Modern Heuristics.